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CITIZEN'S DUTIES

1. To render all possible help and assistance for the defence personnel.
2. To increase the production of his factory.
3. To intensify efforts for increased production of agricultural and small-scale industrial commodities to make his State self-sufficient.
4. To avoid all strikes and lock-outs that may hamper production.
5. To maintain the price level of all essential commodities and curb the tendencies of hoarding and profiteering by conforming to the various legislative and other popular measures.
6. To maintain the supply lines of essential commodities.
7. To contribute generously in the form of money and gold for the war effort.
8. To inculcate the highest sense of duty and responsibility.
9. To join the various organizations set up for the defence of the country.
10. To prevent anti-social and anti-national activities of the fifth columnists.
11. To observe strict austerity in consumption of food, clothes and other essential goods and save for the National Defence Fund.
12. To avoid unnecessary travel so that more important and essential movement may not be hampered.
13. To keep up the morale of the people and prepare them for sacrifices.
14. To check rumour-mongering and to disseminate true and faithful news and information.
15. To join or help Citizens' Committee N.C.C., Territorial Army and Lok Sahayak Sena and Rifle Clubs.
16. To pray for the victory of our Motherland in this struggle and set aside all differences of caste, creed or party.

MADRAS *Information*

Vol. XIX AUGUST 1965 No. 8

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THIS MONTH'S COVER :

Eighteen years ago India started on its march towards economic freedom. Today, she can look back with pride on what has been acheived and look forward with confidence on attaining her objective.

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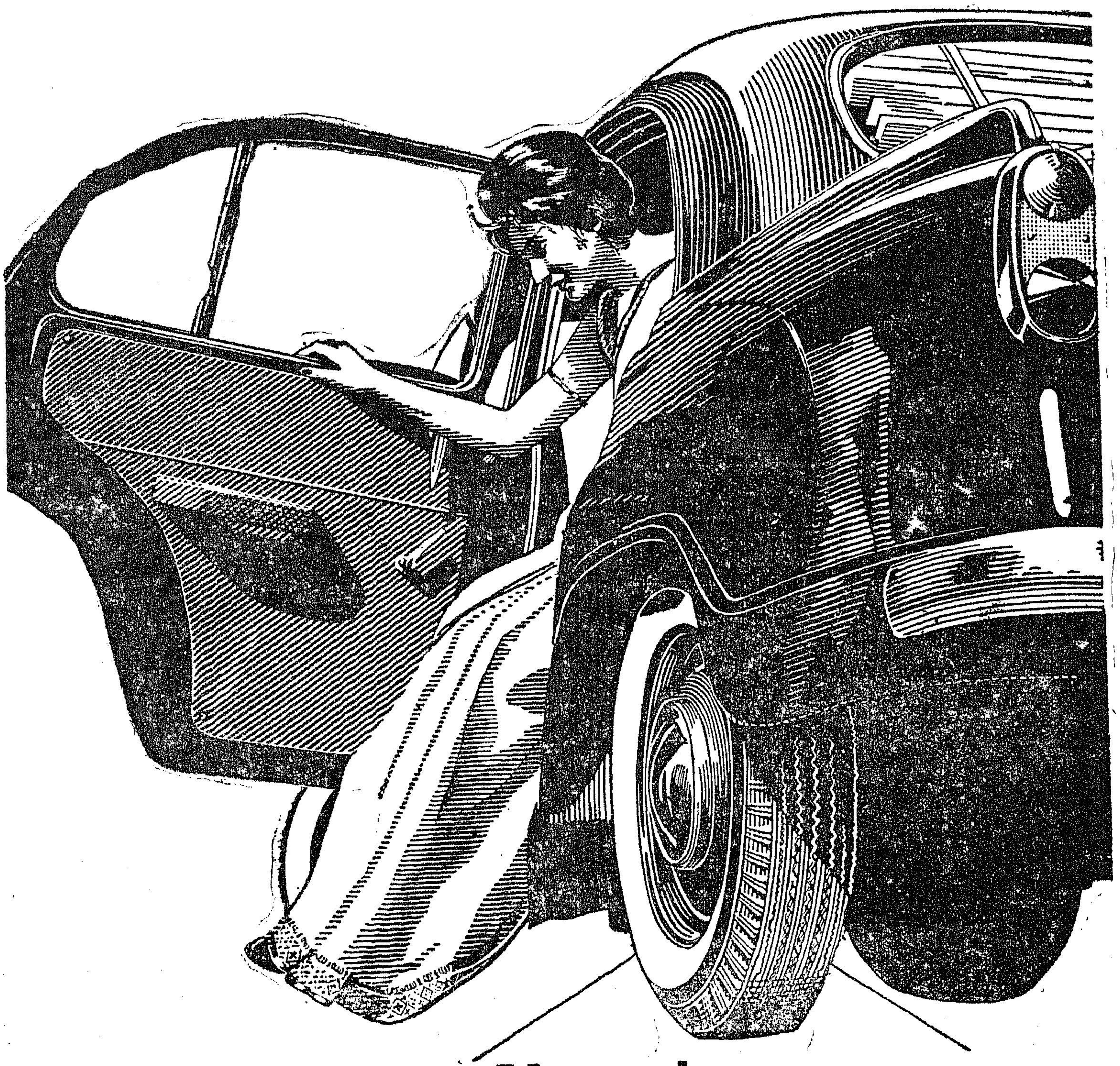

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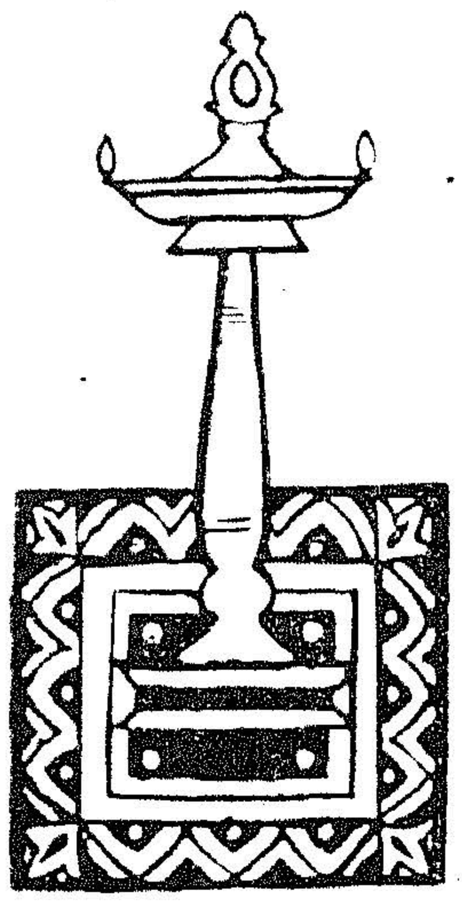
THE LAMP THEY LIT IN 1947



I would like to see India free and strong so that she may offer herself a willing and pure sacrifice for the betterment of the World. India's freedom must revolutionize the world's outlook upon peace and war. Her importance affects the whole of mankind.

—Mahatma Gandhi

After centuries, India's star rose in the horizon. Its voice was heard in the councils of the World, because it was the real voice of India. And then these very people of India, who had shown Courage and Determination fell into a dream and into carelessness and quarelled among themselves. Sometimes they fought in the name of religion, sometimes in the name of caste or language or State............ We should not loose ourselves in wrong directions. We cannot allow our country to fall. Let not this priceless treasure of our freedom slip through our hands because of our weakness.

The service of India means the service of the millions that suffer. The ambition of the greatest man of our generation has been to wipe out every tear from every eye. That may be beyond us. But so long as there are tears and suffering, so long our work will not be over.

—Pandit Jawaharlal Nehru

To-day when we are witnessing the fulfilment of our life's ambition and participating in the victory that has crowned the nation's struggle for freedom, it is our first duty to pay homage to the memory of those whose sacrifices have contributed so much to this glorious conclusion of that struggle. Let the nation honour their memory in the rejoicings which freedom has brought in its train.

Let us not forget, however, in the joy of the hour, the stupendous responsibilities and obligations which freedom has brought in its wake. Our primary duty is jealously to guard our freedom against dangers from without and from within.

—Sardar Vallabhbhai Patel

We are embarking on a great task and we shall do our best to serve it.

—Dr. Rajendra Prasad

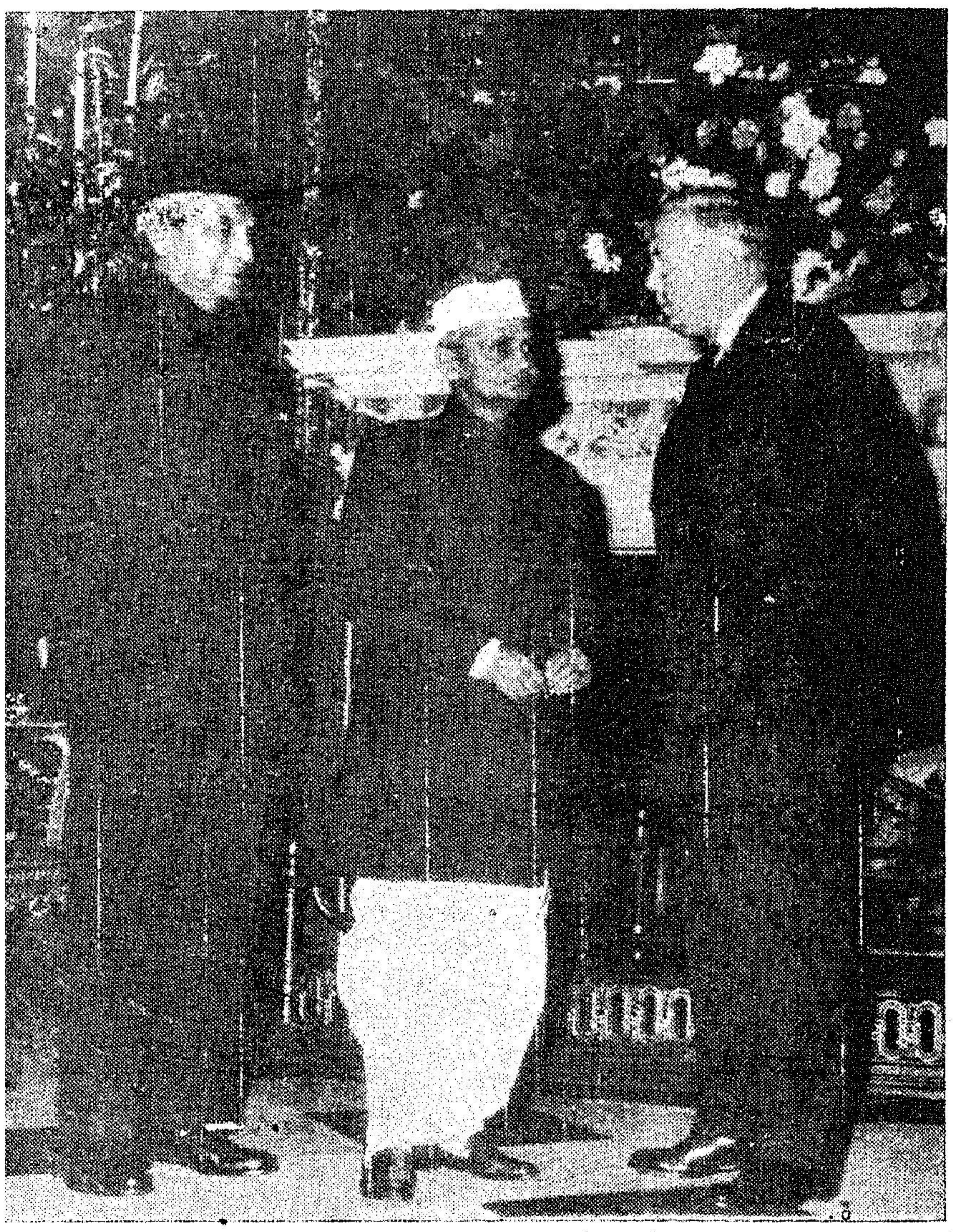
All I can do is to give a personal declaration of the aims and ideals conceived in my childhood and youth and now watched in the beginning of their fulfilment, because they are relevant to the freedom of India, since they are part of what I believe to be India's future work, something in which she cannot but take a leading position. For I have always held and said that India was arising, not to serve her own material interests only, to achieve expansion, greatness, power and prosperity—though these too she must not neglect—and certainly not like others to secure domination of other people, but to live also for God and the World as a helper and leader of the whole human race.

—Sri Aurobindo

Shastri Government—A Year in Office

A surfeit of problems, serious and baffling, and a mere .2 months to cope with them ! A year in the history of ı nation is like a drop in the ocean. But when a nation ıas to make up for centuries of neglect and has to ɔrowd into a decade or two what others have taken a ɔentury or more to achieve, even a year may acquire significance. One can, therefore, understand the impatience of people for quicker progress. In a way, mpatience is a sign of dynamism. If people are exacting n their demands and harsh in their judgment, one ɔould explain it.

During the year the Shastri Government has been in office, it has had to contend with difficult problems and face difficult situations. Its nerve has been fully tested. Not even the most uncharitable critic of the Government can say that it has reeled under difficult problems. The Government may have had anxious moments but it has invariably emerged on t p in the end. It has not only kept its head well above water, it has in fact displayed a degree of courage and determination which is certainly praiseworthy. What is more, the Government has given evidence of its determination to remain on top.



The Prime Minister, Sri Lal Bahadur Shastri, with the British Prime Minister, Mr. Harold Wilson (right) at the Marlborough House in London on June 17, 1965—the opening day of the Commonwealth Prime Ministers' Conference. The Indian High Commissioner in London, Dr. Jivraj N. Mehta is also seen in the picture.

A virile nation will always have problems and virile Government knows how to face them. Whatever the other failings of Government, it cannot be said that it ever took fright or beat a retreat. It has not swerved from the chosen path, at home and abroad, no matter what the difficulties.

Democratic Base

The Shastri Government assumed office under the shadow of a great tragedy. The towering personality of Sri Nehru, who had moulded a subject people into a vibrant nation, pulsating with life, and determined to progress, was no longer there to guide the nation Foreign observers and not a few scribes had predicted chaos. The Shastri Government has not only held the nation together but strengthened the faith of the people in their ability to manage the nation's affairs.

Chroniclers will, perhaps, record that consolidation of democratic processes was an outstanding achievement of Shastri Government. Democracy was one of Sri Nehru's greatest legacies to the Indian Nation. Doubts had been cast even before his death that democracy would die with the death of the architect. Sri Shastri has not only nurtured Sri Nehru's legacy but has proceeded to strengthen and broaden the democratic base. Sri Shastri has encouraged free and frank discussion of issues inside the Government and outside in public and Parliament. There is free flow of information to enable a frank public debate on issues of importance. The Shastri Government has thus the advantage of knowing the public mood and mind on issues concerning the nation.

The day Sri Shastri was elected leader of the Congress Parliamentary Party, correspondents asked him what he considered the most formidable problem facing the

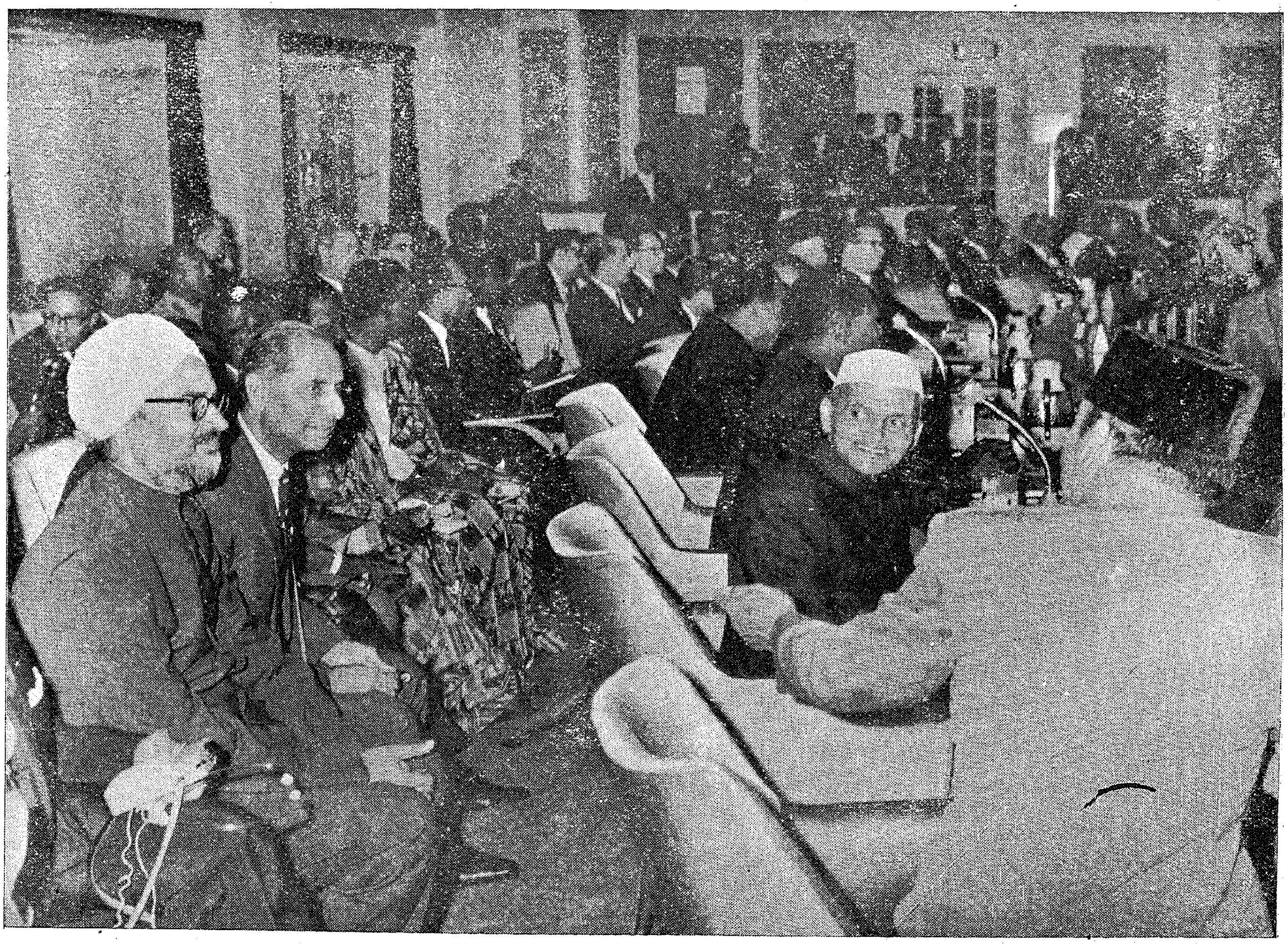
country. Pat came the reply: "Food and rising prices." The Shastri Government did not remain content to describe it as the most formidable problem. It set out methodically to catch the bull by the horn, and success appears to be knocking at the door.

Food problem

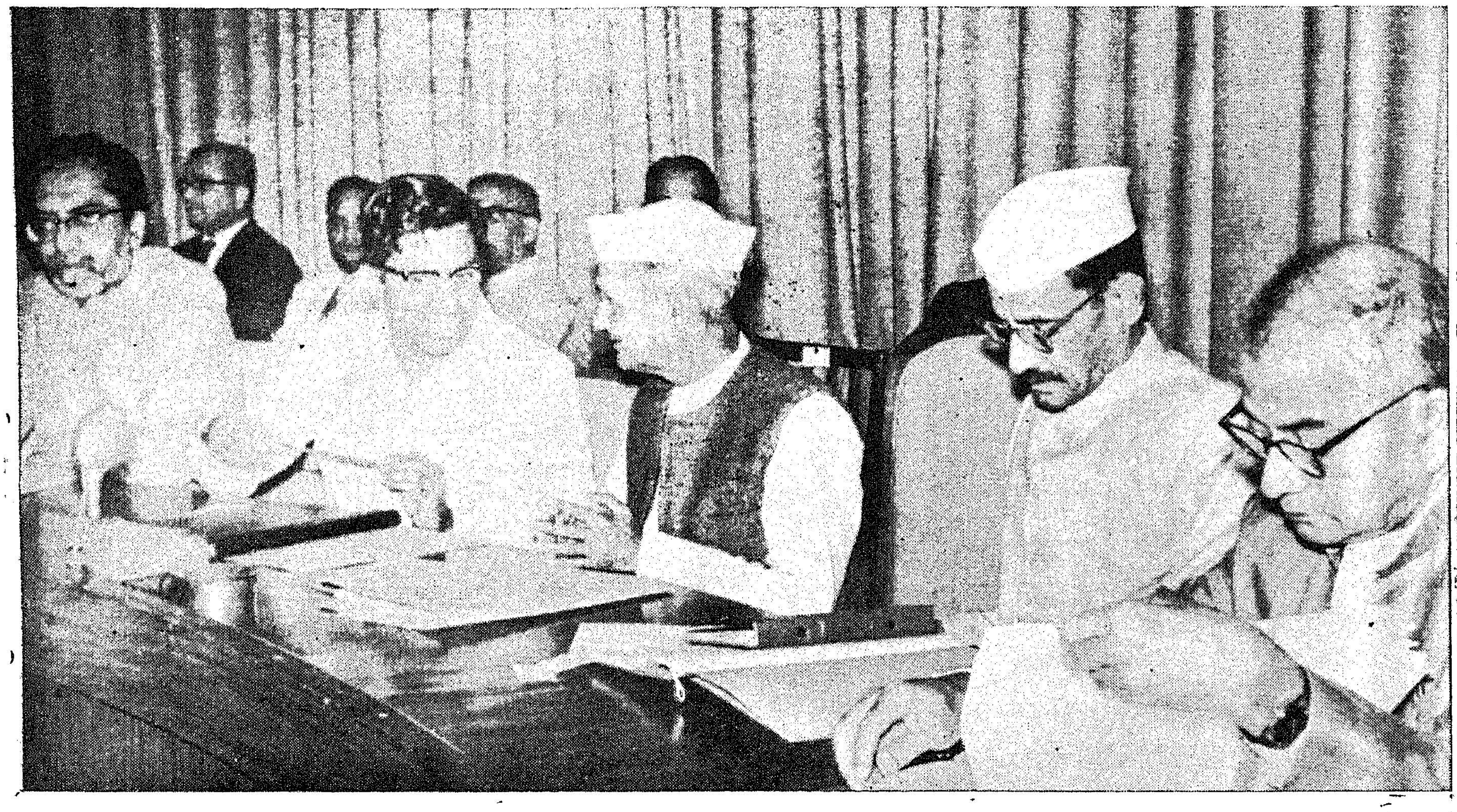
Sri Shastri lost no time in convening a conference of Chief Ministers to discuss the problem of food and rising prices. In the background, a dispassionate examination of the problem at the expert level continued. There were shortages indeed but the speculators and hoarders had exacerbated the situation. A complicating factor in the situation was that hoarding was not confined to the Arhtia or the urban foodgrains dealer. The producer was equally guilty of hoarding foodgrains in the hope of better prices in the future. As a result of discussions at the expert level and at the level of Chief Ministers, the Shastri Government decided to fix producer and consumer prices. It also decided to promulgate an ordinance to provide for a summary trial of profiteers and hoarders. Simultaneously, the Government took steps to open a large number of fair price shops and geared its machinery in rural areas to disgorge hidden stocks.

The cumulative effect of these measures on the price-level and on availability, though not spectacular, is there for every one to see. The situation has continued to take a hopeful turn in the wake of governmental measures. Food scarcity now seems a thing of the past. This is a positive achievement of the Shastri Government.

The Government also took bold steps to curb inflationary tendencies in our economy. Credit squeeze was tightened. Measures were adopted to unearth



The Prime Minister, Sri Lal Bahadur Shastri (Second from right) at the Conference of non-aligned nations held in Cairo. Sardar Swaran Singh, Union Minister for External affairs (with turban) is also seen in the picture.



Prime Minister, Sri Lal Bahadur Shastri at the Conference on food, attended by the Cabinet Ministers, Deputy Chairman of the Planning Commission and Chief Ministers of States held in New Delhi on 26th October 1964. The Prime Minister is seen talking to Sri C. Subramaniam, Union Minister of Food and Agriculture.

undeclared income. The bank rate was raised to a record level of 6 per cent. For the first time in many years, the Government presented a surplus budget.

The main concern of the Shastri Government on assuming office has been to ensure quicker and proper implementation of economic policies and programmes enunciated and defined by Sri Nehru. Sri Shastri is convinced that these policies and programmes are sound. With a view to ensuring a more effective implementation, he held discussions with Secretaries of Economic Ministries. They were told to streamline procedures and to exercise greater supervisory control over implementation of policies. Certain procedures like the grant of industrial licences have already been streamlined.

Attack on Corruption

Side by side with measures to cure ailments in the economy, the Government embarked upon measures to rid the administration of the evil of corruption. Shortly after assuming office, the Government accepted the Das Commission report on corruption charges against the late Chief Minister of Punjab and decided to release the report for publication. The Government also took cognizance of allegations of corruption against other Chief Ministers and Ministers and had them examined at the highest level. Simultaneously, the drive against corruption in the services was stepped up. Recommendations made by the Santhanam Committee were accepted and their implementation taken up.

Foreign Affairs

Another step taken by the Shastri Government to purify public life was to draw up a comprehensive code of conduct for Ministers. Under the code, each Minister is required to make a declaration of his assets on assuming office.

In the domain of foreign affairs, the Shastri Government remains pledged to the policy of non-alignment and peaceful co-existence.

The Shastri Government has been able to strengthen the ties of friendship with the Soviet Union. India's relations with most of her neighbours have also become stronger. The problem of persons of Indian origin in Ceylon which had bedevilled relations with that country has been solved through the initiative of the Shastri

Government. Misunderstandings with the Government of Burma on the question of immigration of Indians have given way to friendly understandings.

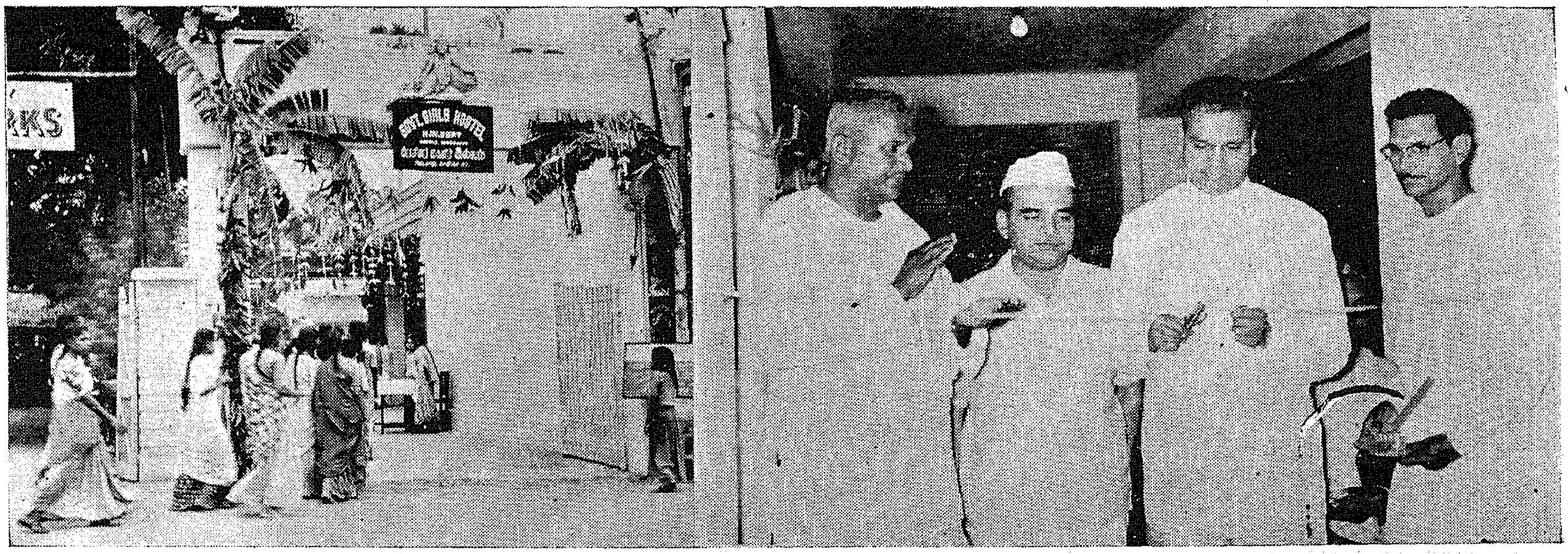
Rann of Kutch

The Shastri Government was faced with two major crises during the short span of one year. The language riots in the South came as a severe shock. The law and order problem was faced with courage and the situation brought under control through firm action. At the same time the Government moved without delay to remove public misapprehensions in the South on the question of language. In a broadcast to the nation on February 11, the Prime Minister reiterated the Government's decision to honour Sri Nehru's assurance in letter and spirit. This mollified public opinion and normalcy was restored. It redounds to Government's credit that it refused to be stampeded into hasty action under the stress of emotion.

The Pakistani aggression in Kutch was the most serious threat facing the Shastri Government during the year. Sri Shastri lost no time in declaring immediately on his return from Nepal that Government would defend the country's borders against Pakistani attacks "with all the strength at our command". Although fighting in an unfavourable terrain, Indian troops took a heavy toll of the invading forces.

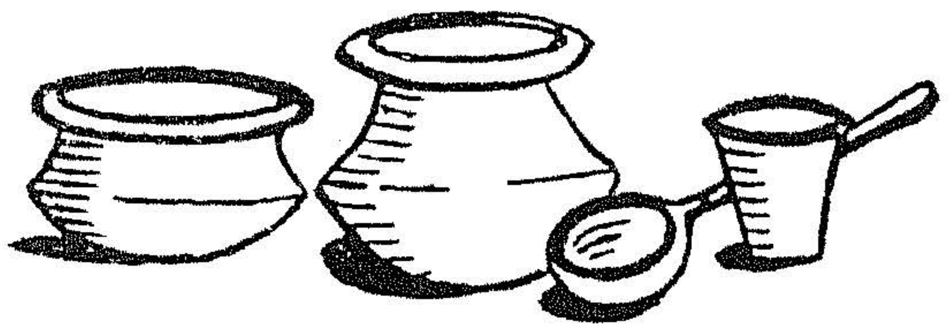
When the issues of war and peace hung in the balance, the Shastri Government never lost its poise and equanimity. In consonance with India's desire for peace, the Government decided not to aggravate the situation in Kutch while British efforts to find a peaceful settlement were in progress. But Sri Shastri made it clear that the restoration of *status quo ante* was an essential ingredient to any acceptable solution.

While the Shastri Government remains wedded to a policy of peace, it has given evidence of its determination not to neglect the country's defences even if it involves the giving up of a few projects for economic development. "The threat to our freedom is real, continuing and immediate" said Sri Shastri, showing a keen awareness of the dangers on India's borders.



Sri G. Bhuvarahan, Minister for Information and Publicity declared open the Government Girls' Hostel at Adyar. Sri P. Kakkan, Home Minister Presided over the function.

The Madras Aluminium Factory



The Madras Aluminium Factory at Mettur was inaugurated by Dr. S. Radhakrishnan on 2nd July 1965. It is the biggest project in the private sector in Madras State. Initially the production capacity of the factory will be 10,000 tonnes of aluminium per year. The cost of the project is Rs. 14 crores

Set amidst a picturesque mountainscape, flanked by the Sithamalai and Palamalai ranges, the waters of the Stanley Reservoir glistening in the sun, the Cauvery flowing majestically down the valley skirting its sides, the fast-developing industrial complex of Mettur provides an impressive spectacle of Nature's bounty harnessed by human genius to serve the community's needs and promote its prosperity and wealth.

Cauvery's gifts of water and energy have been the most potent factor in attracting industries to this place in the last few decades. Factories producing textiles and chemicals, plastics and metalware and, last but not least, the Madras Aluminium Company, are prominent members of this industrial beehive.

Demand and production

India now consumes about 100,000 tonnes of aluminium and the demand is rising at an average of 10,000 tonnes every year. But the demand is expected to grow faster ; five years hence we may be using 250,000 tonnes a year and ten years after, one and half times as much.

In India, production of aluminium has constantly lagged behind demand. Today, we see the spectacle of growing production and increasing imports at the same time. From 3,900 tonnes in 1951, production increased to 55,000 tonnes in 1963 ; during the same years, consumption figures were 16,000 and 82,000 tonnes Increased production is thus imperative not only to save vital foreign exchange (about Rs. 8 crores annually) but also to meet the ever growing demand within as short a time as possible.

At the end of the Third Plan, according to estimates and expectations, the country would be equipped for producing 87,500 tonnes, not taking into account the constantly revised targets, with an expected actual production of about 80,000 tonnes. Assuming that we actually produce this quantity, the gap between demand and supply would be of the order of at least 20,000 tonnes. It is the endeavour of the Madras Aluminium Co., Ltd. to contribute its share in producing and supplying in the initial stages 10,000 tonnes of aluminium to be enhanced in course of time to 20,000 tonnes, and simultaneously put up a rolling mill for the manufacture of rods, cables, rolled products including strips, extrusions, etc. and incidentally place the State of Madras and the district of Salem in the aluminium map of India.

Raw material

Bauxite, the basic raw material for the manufacture of aluminium, was long known to be available in sufficient quantities in nearby Shevaroy Hills. Its existence was first noticed in 1940 by the late Mr. E. K. Dickins, a Eueopean planter of Yercaud, who secured a mining lease from the Madras Government for about 500 acres covering the six hills around Yercaud. He had ambitions to produce aluminium. He did not succeed but, however, he started a factory to produce abrasives from out of fused bauxite. After him others tried for one and a half decades but the idea of manufacturing aluminium

was only in an exploratory stage and never went beyond it. Making aluminium is a highly sophisticated electro-chemical process calling for large capital, intricate plant-structure, up-to-date technical know how and comprehensive research facility besides a large and assured supply of electric power at reasonably cheap rates and caustic soda, the most important of chemicals needed in the process. All these were obviously beyond solution in the conditions ruling in our country in the forties and fifties.

Planning opened new vistas

The era of planning has introduced a new outlook in industry and every year of planning means fresh hopes, fresh horizons and fresh methods of industrial enterprises for new achievements. The Government of India in the Ministry of Industry had set up a committee in 1955 under the Chairmanship of Dr. A. Nagaraja Rao to specifically advise on the possible sites for the location of aluminium manufacturing plants in India and among its recommendations was a plant at Mettur for exploiting the Shevaroy ore.

The time was ripe for taking up the problem of manufacturing aluminium seriously and bringing it to fruition. Sri R. Venkataswamy Naidu, the industrialist of the Coimbatore who had already launched successfully the large enterprise of the Viscose Project at Mettupalayam, came forward to shoulder this gigantic job.

Three things were necessary by way of preliminaries. viz., to prove the quality of bauxite ore to ensure cheap power supply and secure technical assistance of the highest order from wherever it was available in the world.

Proving the ore

The House of Montecatini of Italy came on the scene. They are the largest mining and chemical company in Italy. Their interests cover a very wide range of industries. More than other factors, what is important from the point of view of Madras Aluminium in those early days of prospecting, was the fact that they possessed a highly modernised laboratory and research division and hundreds of scientists and technicians constantly experimenting on new methods and processes. So they were given the initial job of "proving" the ore.

The Geological Survey of India, under the guidance of Dr. M. S. Krishnan and Sri N. K. N. Iyengar, had in their first report indicated the availability and the adequacy of the ore and its quality. Sri N.K.N. Iyengar, after retiring from the Geological Survey, took over the Geology Department of the Madras Government, continued the surveys and helped considerably in the task of assessing the quality of the ore more precisely by actually sinking several test pits.

THE FACTORY AND ITS LOCATION

The factory comprising of four rows of long and stately sheds each affording a commanding view of the rows of machinery and the workmen, their rhythmic operations, flanked by seven tall and imposing 120 ft. siles that stand out as the mast-head of the factory, present an impressive sight. The administrative block located at one end of the factory, has an inviting frontage of lawn and garden while the laboratory is modelled to suit the requirements of a modern metalurgical plant. Rows of quarters for the staff and technicians, a little removed from and yet close enough to the factory, provide intimacy of pattern; and more quarters are on the way. The factory proper, in the design, lay out and appearance is considered to be the best of its type in the country. Located on terraced ground on the hill sides, the entire works, with the fine guest house and residential quarters built on higher ground at different levels command a grand stand view of the landscape.

At the invitation of the Government of Madras, Montecatini deputed their Geologist for studying the ore and reporting on its usability. The findings of Prof. Vighy of Montecatini were that two out of the six bauxite hills could be left out of account for the present, being not quite accessible; but that the ore reserves of the remaining four hills could be conservatively and safely estimated at near 3 million tonnes, enough to last for 40 years on the basis of 10,000 tonnes of metal production per annum; and that the average grade was of the 42 per cent aluminia with a low titanium content, a particularly favourable factor which renders it eminently suitable for manufacture of aluminium by the Bayers process. Checks and counter-checks and comparisons with earlier analyses have established beyond any shadow of doubt the feasibility of the project. To give weight to the finding and to show their own faith in the success of the proposition Montecatini had indicated their willingness to participate substantially in the equity capital of the project at the appropriate time.

The basis having been settled, the other hurdles were cleared quick enough. The Madras Government made it possible for the mines area to be transferred to Madras Aluminium Co. and also reserved for this project

an area of over 600 acres very near the Mettur Dam Railway Station, while the Madras State Electricity Board assured adequate power supply at an economic rate for ten years in terms of the recommendations of the Dr. A. Nagaraja Rao Committee.

Biggest private enterprise

With such assurances and the additional assistance of participation in the equity capital to the extent of Rs. 150 lakhs by the Madras Industrial Investment Corporation, the Madras Aluminium Company came into being in January 1961. This Rs. 14 crore project in the private sector, the biggest in Madras State, became a reality with the widest possible dispersal of capital.

The potentiality of Mettur Dam not only for purposes of irrigation but in promoting industries was visualised by its sponsors. But it was not until Sir C. P. Ramaswami Ayyar, then member of the Executive Council of the Madras Government, took up the matter and gave a dynamic lead, that the project began to make headway. He kept up a sustained effort in the face of sceptical and hostile criticisms and tenaciously pushed forward with the scheme. Only such projects as these have placed Madras in the forefront in the irrigation and hydro-electric field in India.

Availability of cheap hydro-electric power was the major factor in inducing industrial concerns to locate their production units here. The first to come was a textile undertaking and soon after many, including one to manufacture chemicals, followed. The town began to develop so rapidly in the wake of industrial advance that the Government took steps to constitute a Township for its better administration. So the Dr. Rao Committee recommended Mettur as an ideal place for locating this factory. The Montecatini Project engineers also endorsed the recommendation.

Mettur has all the commercial and technical advantageous as the best location for the aluminium plant. It is equidistant to the harbours of Madras and Cochin. Bangalore, another State capital is nearby. Mettur is connected by the main broad gauge rail line. Power is generated and supplied right on " tap " there and so there will be no loss of energy in transmission. So also the river Cauvery will meet all the requirements of 5 million gallons of water every day for the factory. Mettur Chemicals working next door will supply all the caustic soda required for the factory. What more advantages in location, utilities and supplies can a project have and which other place can provide all these ? So, Mettur became finally the venue of the project.

Foundation stone laid

Then work started at Mettur in right earnest. The ground was bull-dozed and the foundation stone for the factory was laid in June 1961, by Sri Lal Bahadur Shastri, then Union Minister for Commerce and Industry, presided over by Sri K. Kamaraj, then Chief Minister of Madras State.

More than 20,000 tonnes of cement and nearly, 10,000 tonnes of steel and over 5 million stone bricks have gone into the construction. Nearly 2,500 skilled semi-skilled and unskilled labourers were on the rolls for the past two years in the construction of this huge industrial workshop. Over 100 technical personnel were on the job of construction.

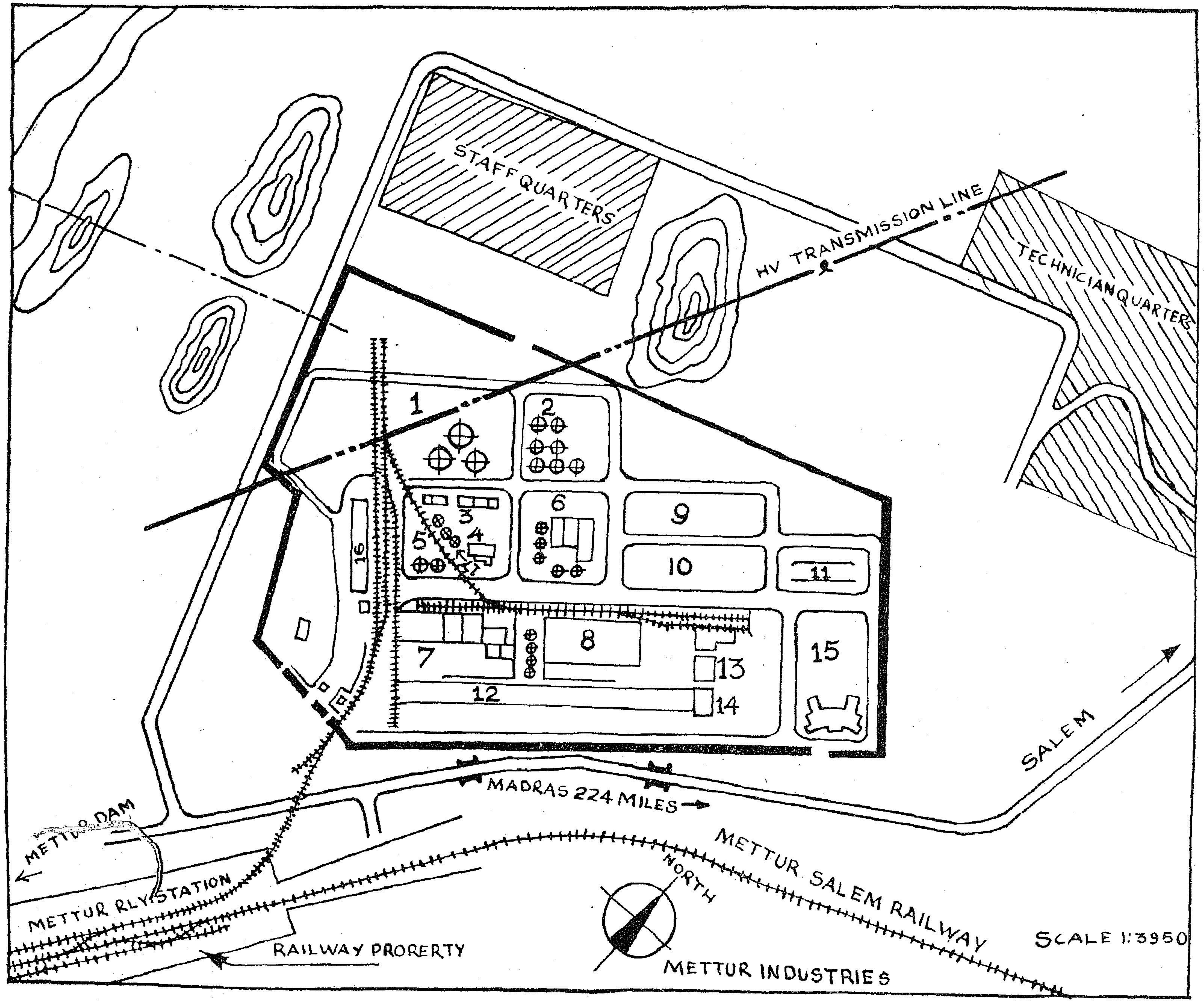
The vastness and size of the factory could be understood more if it is known in terms of the length of cables, pipelines and drainage pipe laid. Over 10,000 metres of pipeline were laid for carrying drinking water and 5,000 metres of pipeline were laid for carrying industrial water. The drainage requirements claimed 4,500 metres of pipes. Two hundred thousand metres of power cables were used overhead and 25,000 metres of power cables were used underground. The entire complex costing over Rs. 2·5 crores is a beauty in form, pattern, design and architecture.

A railway siding has been laid out from the Mettur Dam Railway station to the factory sheds to facilitate receiving the incoming consignments and transporting them right into the factory premises. The 1·7 mile length of rail line inside the factory is a great aid for easy and quick movement of raw materials to and finished metal from the works.

MADRAS STATE'S BAUXITE POTENTIALITY

India's progress in aluminium production goes back to 1940. The discovery of large bauxite deposits by Mr. Cyril Fox in many regions of the country has made the exploitation of aluminium logical and inevitable. In the Techno-Economic Survey of Madras carried out in 1958–60, special stress was laid on the potentiality of aluminium to correct the deficiency of minerals and mining. In that survey a plant with a rated capacity of 20,000 tons a year was suggested as desirable. Since Salem provided both bauxite and power the erection of the aluminium plant at Mettur with the technical assistance of Montecatini became feasible.

LAYOUT OF THE MADRAS ALUMINIUM FACTORY



1 Dorr Thickner

2 Decomposition

3 Aluminia red section

4 Boiler

5 Fuel oil

6 Aluminia white section

7 Paste preparation plant

8 Foundry

9 Workshop

10 Stock store

11 Laboratory

12 80 KA electrolytic furnaces

13 110 KVA Sub-station

14 AC/DC conversion

15 Management office

16 Bauxite

17 Soda storage

A full-fledged 61,500 KVA Electric sub-station has been constructed within the factory to receive the power supply from the Mettur Station and distribute it in the required voltages to the various sections of the factory.

On 2nd July 1965 Dr. S. Radhakrishnan, inaugurated the factory. This day will be a red letter day in the history of the aluminium industry in the country, no less than in the annals of the Madras Aluminium Company. Hardly three years have passed since the foundation for this project was laid. The encouragement and active co-operation of the Governments at the Centre and in the State have been forthcoming right through and they have been quite appreciative of the valuable economics possessed by this venture. Starting with such promise and rosy prospect the Madras Aluminium Company launches out on its voyage of endeavour and achievement in the service of the nation.

Rice Production up by 5 per cent: Final Estimate for 1964-65

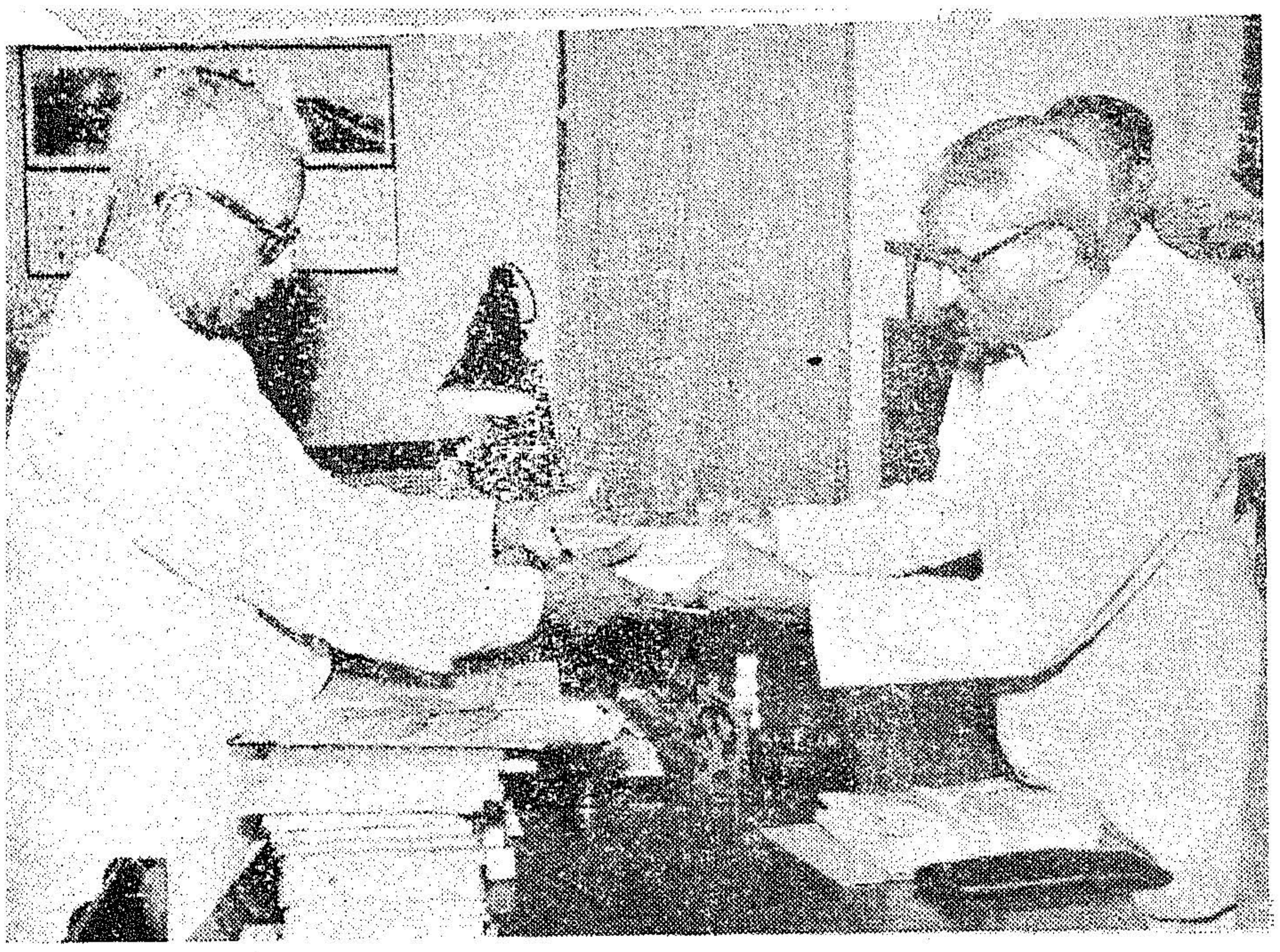
The All India final estimate of rice for 1964–65 puts the current year's area under the rice crop at 89·149 million acres (38·076 million hectares) and production at 38·73 million tonnes.

According to the Directorate of Economics and Statistics, Union Ministry of Food and Agriculture, this year's estimate shows an increase of 1·12 million acres (0·454 million hectares) or 1·3 per cent in area and 1·184 million tonnes or 5 per cent in production.

The increase in area under rice crop during the current year is accounted for mainly by West Bengal, Uttar Pradesh, Assam, Punjab and Madhya Pradesh and is attributed to favourable weather conditions at the time of sowing. The increase in area has been offset to some extent by the decline reported by Andhra Pradesh attributed to heavy rainfall and floods in some parts of the State at the sowing time.

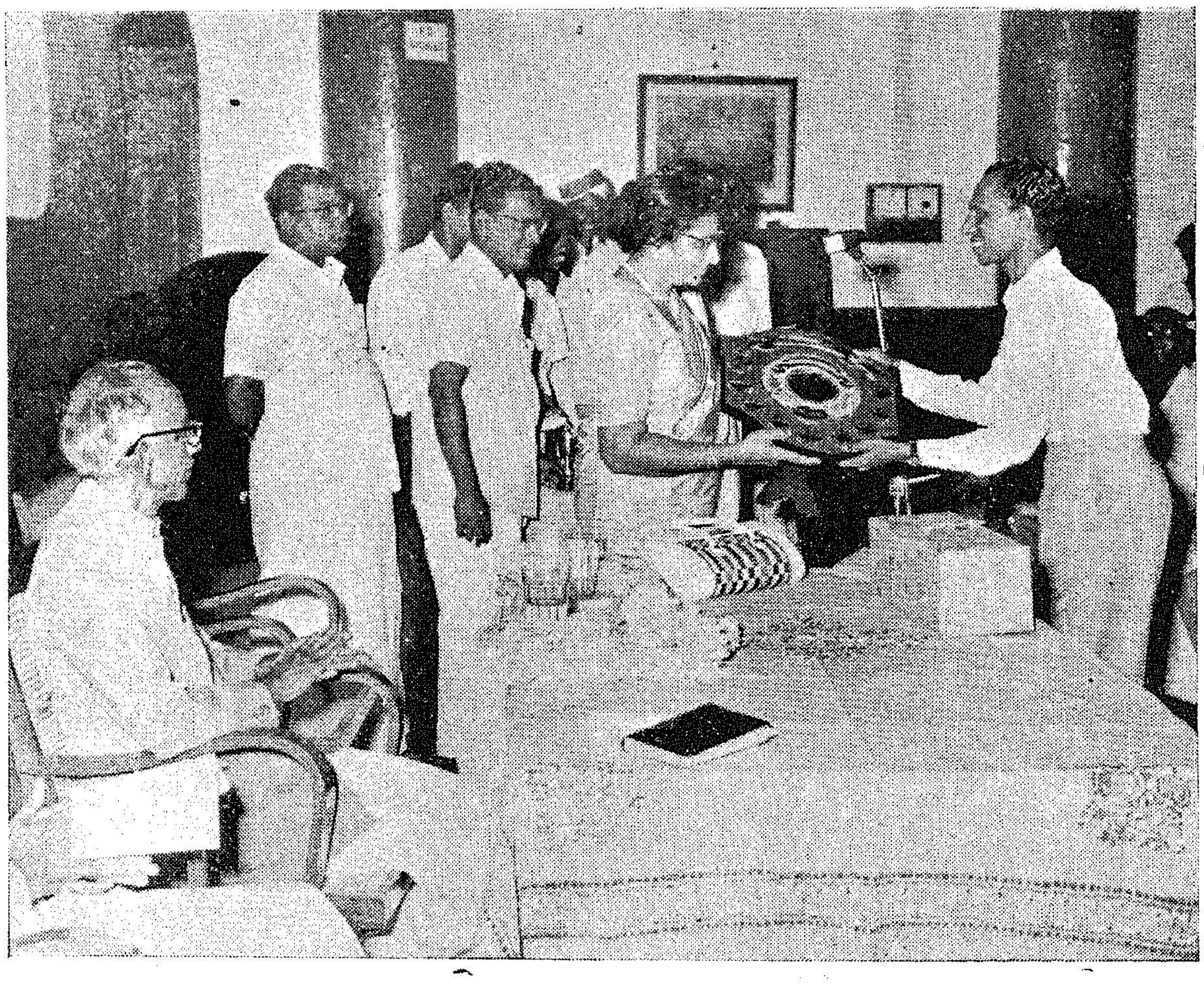
The current year's production of rice is the highest on record for the second year running. Apart from Gujarat, Maharashtra, Jammu and Kashmir, Kerala and Rajasthan which have reported some decline due to inadequate or ill-distributed rains, all the other States have reported increase in production. Notable increases in production during the current year have been registered in Andhra Pradesh, Bihar, West Bengal, Mysore, Madras, Punjab, Orissa and Madhya Pradesh. A major part of the increase in production is due to the improvement in yield which has gone up by 3·7 per cent as against the increase of 1·3 per cent only in area over the last year. The increase in yield is attributed to development measures and favourable weather conditions during the period of growth of the crop.

Data in respect of Goa, Daman and Diu, Pondicherry and NEFA have been included in the estimate for the first time. These taken together account for 135,100 hectares and 130,200 hectares of area and 180,200 tonnes and 177,200 tonnes of production of rice during 1964-65 and 1963-64 respectively.



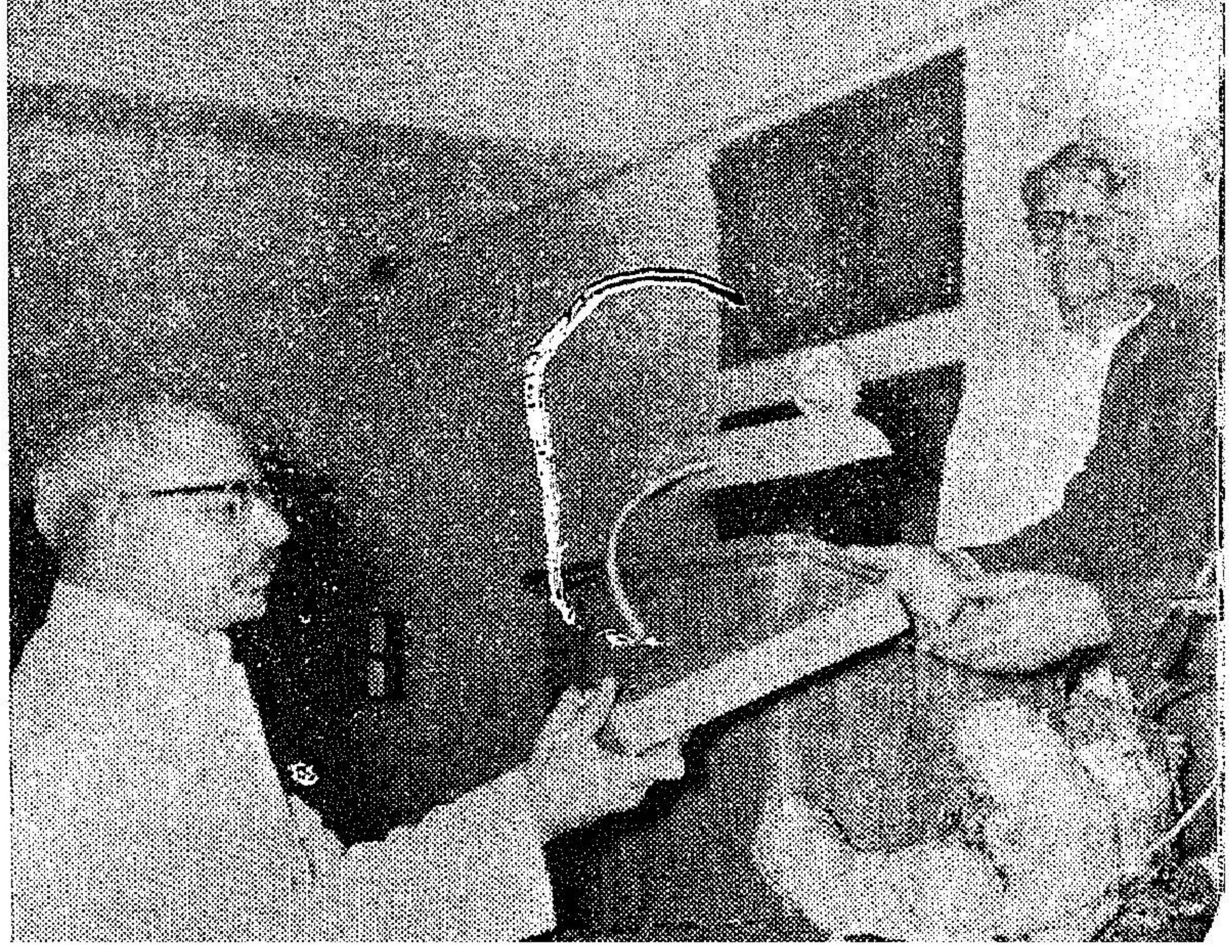
Chairman of the Southern Language Book Trust presenting books to the Chief Minister, Sri M. Bhaktavatsalam, at the Secretariat on 12th July 1965.

The delegation of American Journalists who visited recently are chatting with the Chief Minister at his chambers.



Sri T. A. Varghese, Chief Secretary presided over the Annual Day Celebrations of the Secretariat Association. Mrs. Vargese is distributing prizes.

Third volume of English-Tamil Dictionary was rec released by Dr. A. Lakshmanaswamy Mudaliar, Vice-Chanceller, Madras University.



The Ambattur Industrial Area: Facts and Figures

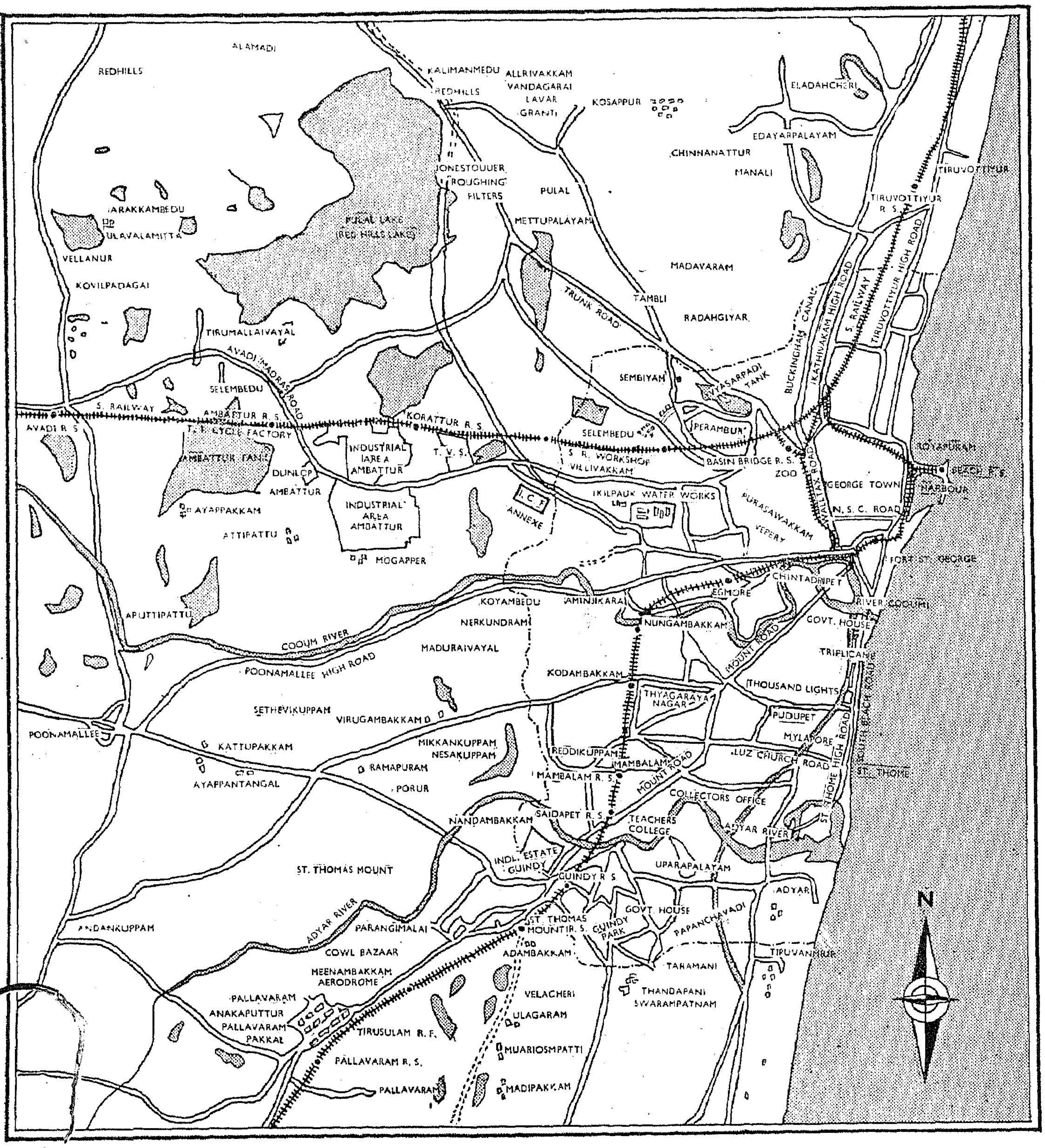
Unlike the conventional type of Industrial Estate which entertains only Small Scale Industrialists, the Ambattur Industrial Township is designed to accommodate Small, Medium and Large Industries.

Provides not only ready-built Factory Units for Small Industrialists, but also Developed Plots for Small, Medium and Large Industries for the entrepreneurs to put up their own buildings.

Lies in an important Industrial Belt of the City where a number of large industries like I.C.F., Central Heavy Vehicles (Tanks) Factory, T.I. Cycles, T.V.S. Group, Dunlop, Omega Cables, etc., are located.

It is situated at a distance of 3 miles from the municipal limit and 8 miles from Madras Fort.

It spreads on either side of the Madras-Avadi Road and the Madras-Arkonam Broad Guage Railway Line is its northern boundary.



AMBATHUR INDUSTRIAL AREA LOCATION MAP

Space is being provided for the location of Chemical and Fruit-based Industries with amenities like steam, cold-storage, tin-can making unit, etc.

The Factory Units are so designed with plenty of open space as to allow easily the future expansion. For instance, a 'B' type Unit can be expanded into an 'A' Type by adding two more bays and a 'D' Type into 'C' Type by a similar procedure.

Only subsidised rent is charged for the units in the initial stages. The cost of the Developed Plots is recovered in instalments.

Labour Tenements, Transport Facilities, Power and Water-supply, State Bank, Petrol Bunk, Industrial Training Institute, Residential Accommodation and Departmental Common Service Centres are all provided.

The Ambattur industrial area

Stages of develop-ment.	*Total area in acres.*	*For factory units.*	*For deve-loped plots.*	*For amenity buildings etc.*
I Stage*	630	200	353	77
II Stage†	570	..	387	183

* Acquisition of land construction of Factory Units and provision of Developed Plots each ranging from 1 to 12 acres in extent have all been completed.

† Land is under acquisition ; 72 plots each ranging from 2 to 20 acres are contemplated.

Stage-1—Developed plots

Industries.	*Number of plots.*	*Alloted.*	*Balance.*
Private industries ..	87	66	21
Government purposes	14	5	9
Petroleum companies.	4	4	..
Grand total ..	105	75*	30

* Number of factories completed at Developed Plots 11

† Number of factories under construction 11

Factory units

Types of units.	*Number of units.*	*Total area of each unit (sq. ft.).*	*Monthly subsidised rent.*	
			RS.	P.
A	10	29,428	1,370	34
B	20	28,909	1,189	16
C	20	25,141	969	48
D	20	22,018	762	03

Area of units

Type.	*Plot area for each unit.*	*Plinth area in square feet for each unit.*			
		Office.	*Work-shop.*	*Ame-nity.*	*Total.*
A	67 cents ..	3,037	11,839	1,576	16,452
B	67 cents ..	3,037	9,860	1,576	14,473
C	57 cents ..	2,520	7,958	1,413	11,891
D	50 cents ..	2,520	5,956	940	9,416

Cost under broad heads

Item number.	*Name of work.*		*Cost. (in RS.)*
1	Departmental Units	..	208,36,000
2	Developed Plots	..	48,21,250
3	Service Centres	..	10,44,550
	Total	..	267,01,800

or 267·00 lakhs.

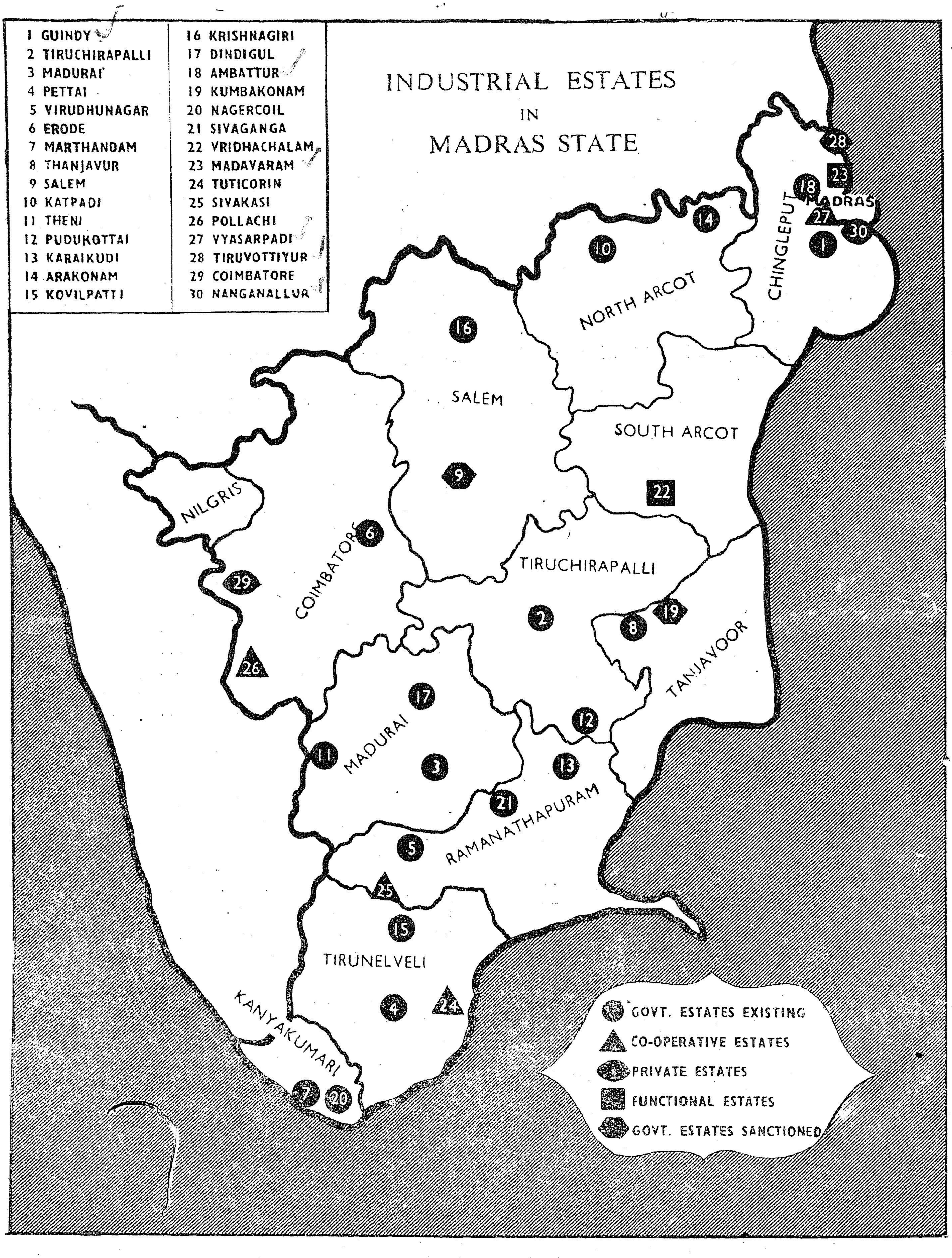
Cost of buildings

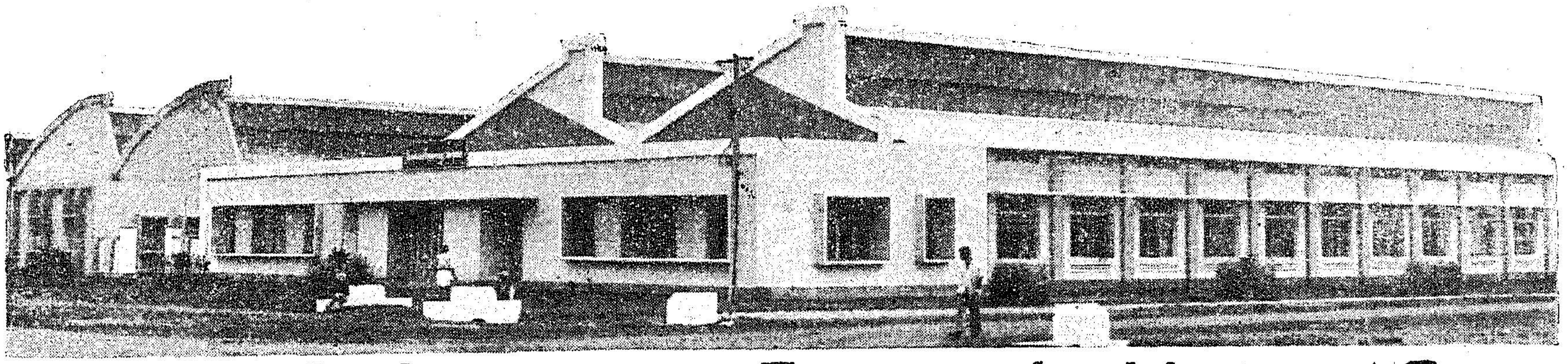
Type.	*Building portion.*	*Water-supply and sanitary arrange-ments.*	*Elec-trical arrange-ments.*	*Total Cost.*
	RS.	RS.	RS.	RS.
A	2,59,900	7,900	13,300	2,81,100
B	2,31,700	6,500	11,600	2,49,800
C	1,88,400	6,400	9,800	2,04,600
D	1,51,400	6,300	8,100	1,65,800

Sale of Edible Oils

The Government of Madras direct that in the trade relating to edible oils in the State of Madras, no transaction, dealing or contract shall be made or had except by weight only.

This shall take effect on and from the 1st October 1965.


INDUSTRIAL ESTATES
IN
MADRAS STATE
1 GUINDY
2 TIRUCHIRAPALLI
3 MADURAI
4 PETTAI
5 VIRUDHUNAGAR
6 ERODE
7 MARTHANDAM
8 THANJAVUR
9 SALEM
10 KATPADI
11 THENI
12 PUDUKOTTAI
13 KARAIKUDI
14 ARAKONAM
15 KOVILPATTI
16 KRISHNAGIRI
17 DINDIGUL
18 AMBATTUR
19 KUMBAKONAM
20 NAGERCOIL
21 SIVAGANGA
22 VRIDHACHALAM
23 MADAVARAM
24 TUTICORIN
25 SIVAKASI
26 POLLACHI
27 VYASARPADI
28 TIRUVOTTIYUR
29 COIMBATORE
30 NANGANALLUR
MADRAS
CHINGLEPUT
NORTH ARCOT
SALEM
SOUTH ARCOT
NILGRIS
COIMBATORE
TIRUCHIRAPALLI
TANJAVOOR
MADURAI
RAMANATHAPURAM
TIRUNELVELI
KANYAKUMARI
GOVT. ESTATES EXISTING
CO-OPERATIVE ESTATES
PRIVATE ESTATES
FUNCTIONAL ESTATES
GOVT. ESTATES SANCTIONED



THE SAGA OF INDUSTRIAL ESTATES IN MADRAS STATE

SRI R. VENKATARAMAN,
Minister for Industries and Power.

The inauguration of the Industrial Estate at Ambattur by Sri. K. Kamaraj is a significant event in the industrial development of Madras State and is an appropriate occasion for recapitulating the history of the industrial estates programme in Madras State and assess the achievements in this field.

The industrial scene in our State before the First Plan period, and even during the First Plan, was not quite happy. There was no well developed industry worth mentioning except perhaps the textile industry. Apart from a few spinning mills and stray set of engineering industries, situate in the heart of congested cities like Madras and Coimbatore there was no significant development in the field of industries. Modern types of small industries using power and up-to-date machinery and employing specialised methods were almost absent.

Planners' Problem

The problem that faced the people responsible for industrial planning in Madras at that time was threefold. Firstly, they had to demonstrate to the people that well-equipped modern industries could be started with moderate capital and set up in the various parts of the Madras State. Secondly, they had to take steps to intensify the pace of industrialisation by enabling a large number of production units to come into existence in a relatively short period. Thirdly, they had to ensure that the new development of industries takes place in a balanced fashion in relation to the various regions of the State and that a well-planned dispersal of industries is achieved.

The planners had also before them the social objective of providing employment opportunities to a number of people and of enabling even the small entrepreneurs to participate in the exciting adventure of achieving prosperity through production.

To achieve these ends, a number of schemes were formulated and implemented during the Second Plan period. The most important of all of them was the programme of setting up industrial estates which may perhaps truly be called a package programme for industrial development of the given regions.

Dispersal of Industries

The industrial estates programme helped considerably to achieve the objective of dispersing industries to the various corners of the State. It helped the growth of a large number of small industries in the quickest possible time. It helped the small entrepreneurs to enter the field of manufacture by reducing the capital expenditure on land, buildings and general facilities.

By setting up a number of service units and demonstration-*cum*-training units and production units in the Estate covering a variety of new fields like Pressure Die Casting, Electroplating, Enamelling, Foundary;

Forge, Woodworking, Tool and Die Making, etc., the State not only demonstrated to the small entrepreneurs that modern types of small units can be set up with moderate capital but also considerably reduced the capital cost in respect of private entrepreneurs who came forward to set up production units in industrial estates.

The emergence of a new class of entrepreneurs, viz., "engineer-technician factory owners" has been made possible mainly on account of the industrial estates programme which resulted in the elimination of the delays arising from time factor and cost factor. The industrial estates acted as a nucleus in the industrialisation of the region.

To-day, in the field of small-scale industries, Madras State occupies an important position and we have more than 7,500 small-scale industries registered on the list as compared to a few hundreds which existed about ten years ago. The programme of industrial estates has been not a little responsible for this kind of progress.

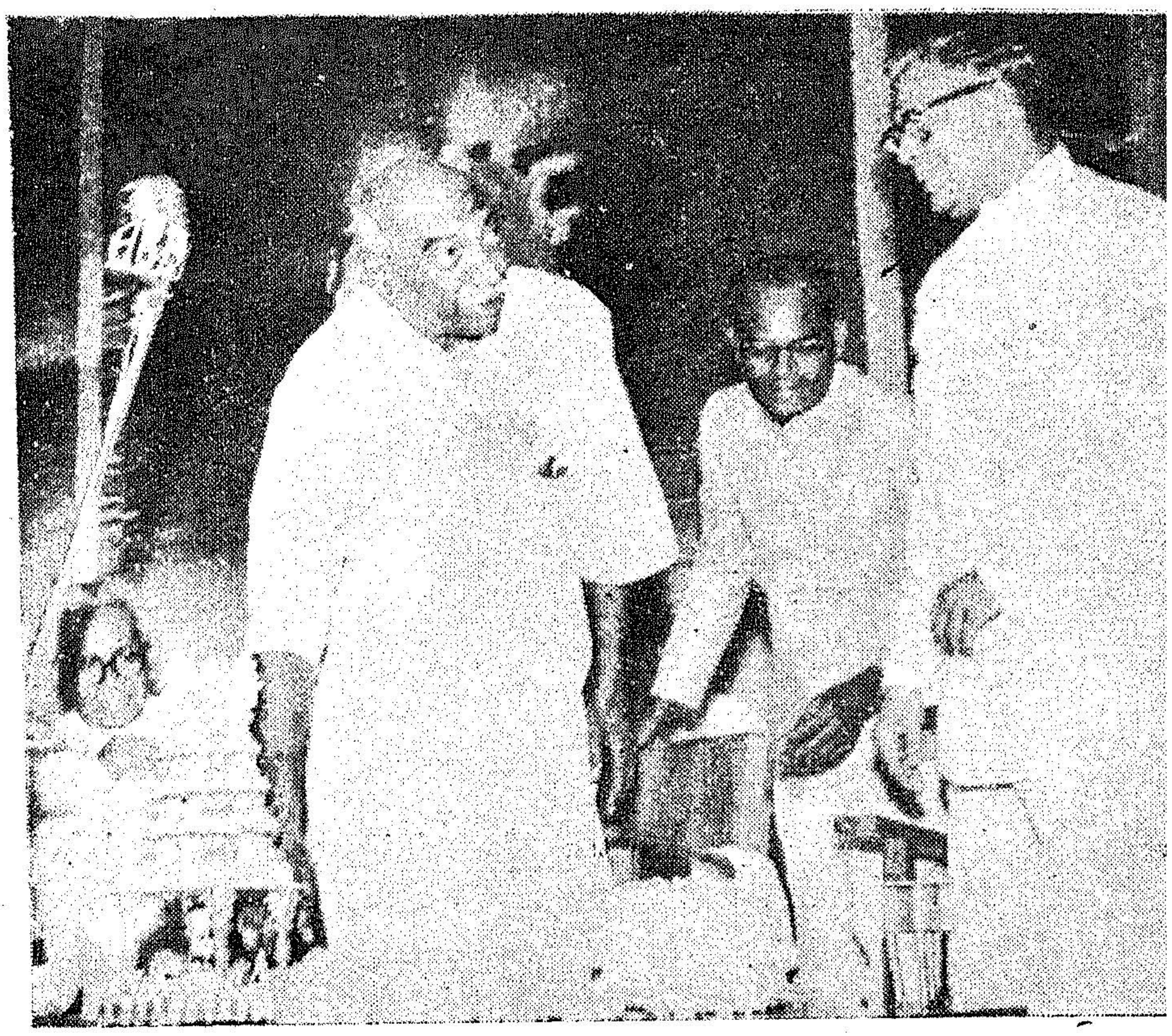
It is at the beginning of the Second Plan period that we undertook to set up industrial estates in Madras. We planned to set up 10 estates containing about 182 factory units, at a cost of Rs. 95 lakhs. But the response to this programme was so good that by the end of the Second Plan we constructed 9 estates containing 237 units constructed at a cost of Rs. 154·80 lakhs.

Biggest at Guindy

The biggest of the estates constructed in the Second Plan was, of course, the one at Guindy which is considered to be one of the earliest and one of the biggest and one of the most significant and successful estates constructed in the country.

Industrial Estates in Madras

Location.	Number of Units.
Guindy (Madras)	128
Madurai	28
Tiruchirappalli	22
Virudunagar	15
Pettai (Tirunelveli)	12
Marthandam (Kanyakumari)	5
Erode	7
Thanjavur	6
Katpadi	14



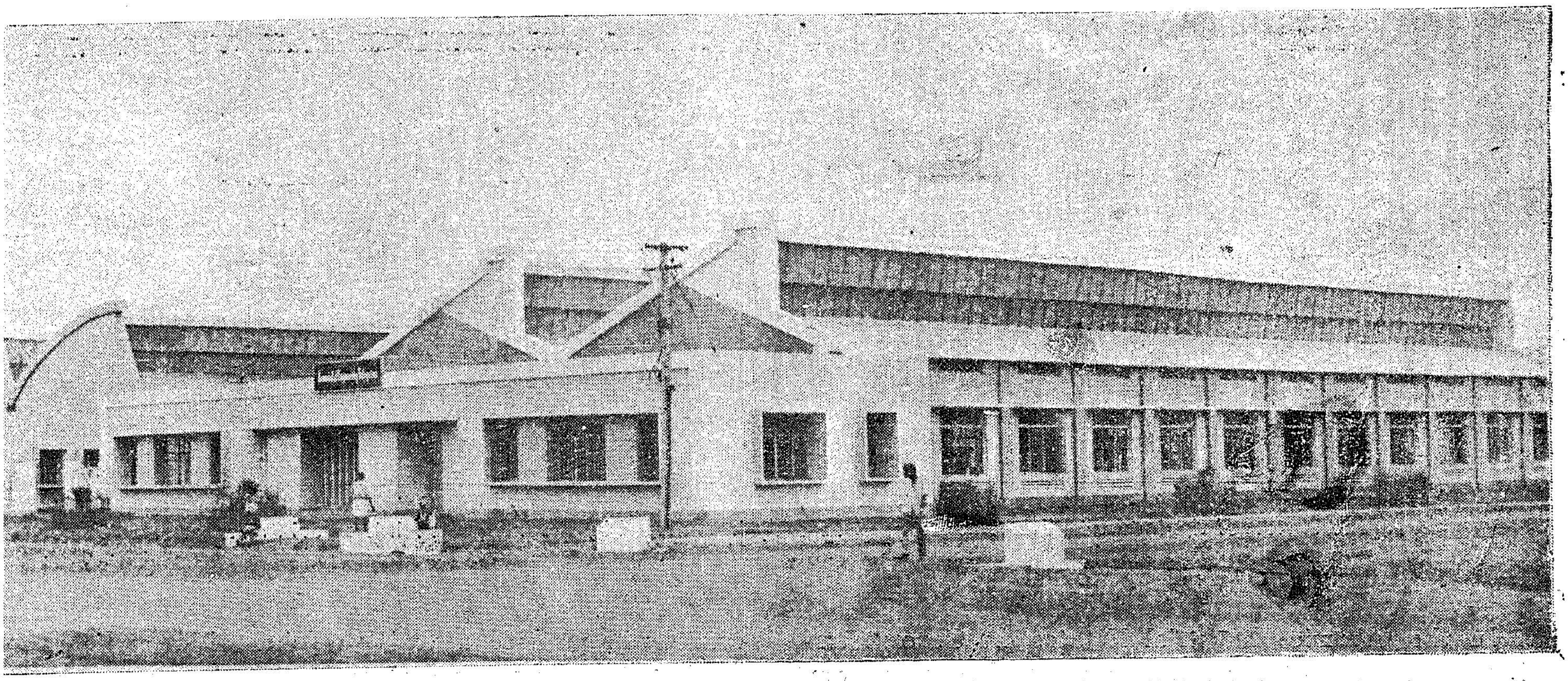
Sri K. Kamaraj inaugurated the Ambattur Industrial Estate.

In the course of a few years all the units at Guindy were filled and an amazing variety of lines of production was brought into existence. The lines of production covered a wide range from machine tools, dies and jigs, high voltage line material, electronic instruments and consumer items like tape recorder, electrical applicances and fans to industrial products like castings, forgings, etc.

It has been the venue of the Seminar on Industrial Estates conducted by the ECAFE and it received words of praise from a number of foreign delegations who attended the ECAFE Seminar. It has also been the venue of the All-India Seminar where ideas on planning of industrial estates were clarified.

Similarly the estate at Madurai also received extremely good response from entrepreneurs in the State.

All the 237 factory units constructed during the Second Plan period have been fully occupied and are now used for production purposes. The rate of occupancy is considered to be one of the most striking achievements in the country, since the experience in respect of industrial estates constructed in the other parts of the country has not been so spectacularly successful. It has been estimated that in respect of these 237 units an investment of the order of Rs. 8.61 crores has been made and that employment opportunities have been generated to the extent of 8,610 persons. This is an out-standing example of generating high employment with low governmental expenditure. A promotional expenditure, of the order of Rs. 1·54 crores has



A view of the Industrial Estate.

resulted in a production investment of Rs. 8.61 crores and an annual production of nearly Rs. 9 crores and has generated employment opportunities for 8,610 persons.

Thus by the end of the Second Plan Period the programme had thoroughly justified itself and helped the Government to achieve the social and industrial objectives.

In the Third Plan

During the Third Plan we naturally decided to continue the programme and set up a large number of new industrial estates. The demand for space in the existing industrial estates was also so high that we decided to construct additionally 35 factory units in the estates of Madurai, Tiruchirappalli and Erode. Thirteen new industrial estates with 283 factory units were sanctioned at a cost of Rs. 320 lakhs. The details of the new estates sanctioned are : Ambattur (Madras) 70 ; Madavaram (Madras) 21 ; Vridhachalam 29 ; Theni (Madurai district) 12 ; Dindigul 25 ; Karaikudi 18 ; Kovilpatti 18 ; Pudukkottai 18 ; Krishnagiri 18 ; Arkonam 18 ; Sivaganga (Ramanathapuram district) 12 ; Nagercoil 12 and Kumbakonam 12.

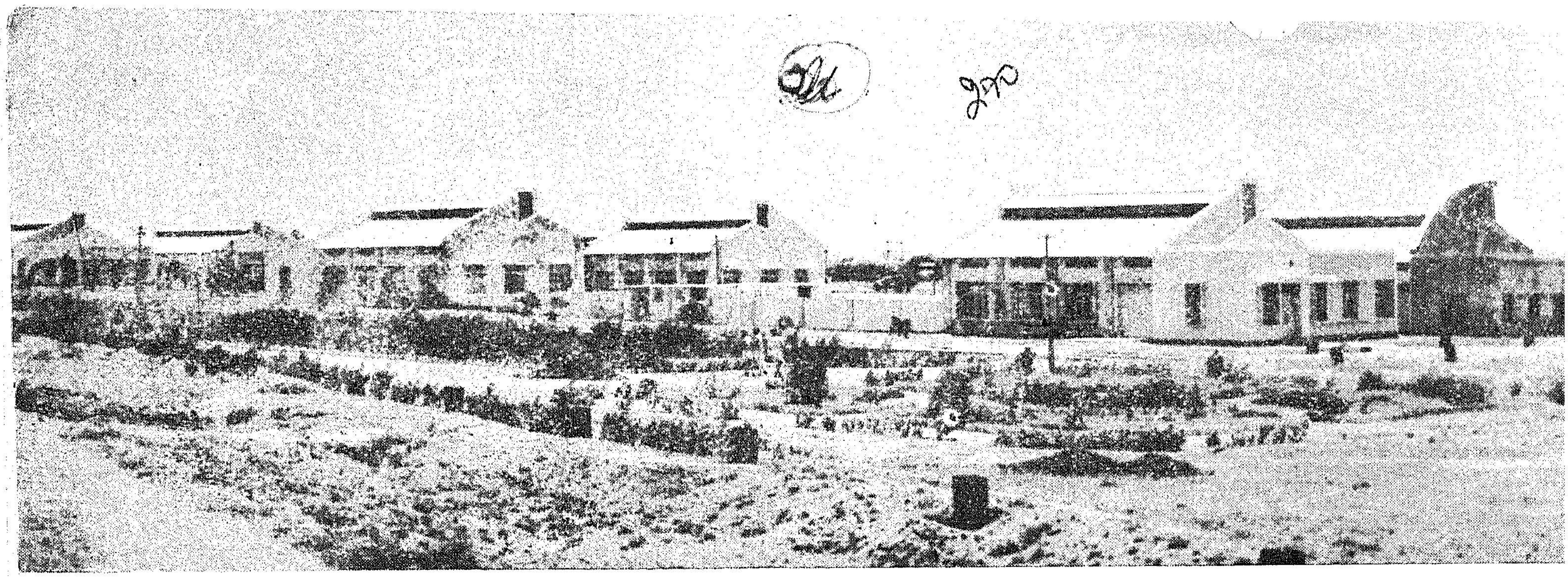
Out of these 13 estates sanctioned construction of 11 estates has been completed and many of them commissioned and the units have been occupied. The Estate at Arkonam is under construction and the other estate is expected to be completed in the near future. A sum of Rs. 321 lakhs has already been spent and owing to the continuous revision and improvement of the plans relating to the estates we expect that the total expenditure of these estates will go up to Rs. 500 lakhs before the end of the Third Plan.

Functional Estates

During the Third Plan Period we broke new ground in the programme of industrial estates by setting up a few functional industrial estates, ancillary industrial estates, private and co-operative industrial estates and also a few industrial areas. Functional industrial estates are designed to suit the needs of a group of industries coming under the same category. The most important advantage of a functional industrial estates is the possibility of designing common services and common processing facilities, thereby leading to an enormous reduction in the capital cost of the individual schemes.

The most interesting examples of this type of estates in Madras are the Ceramic Industrial Estate at Vridhachalam and the Leather Industrial Estate at Madavaram.

In the ceramic industry preparation of the ceramic body is the process which calls for high investment, complicated technical know-how and the employment of specialised personnel. The processing of the ceramic body into various ceramic products is comparatively simple and does not call for large investments. The next stage of firing the moulded, pressed and cast ceramic articles needs special types of kilns which again calls for high investment and complicated technical know-how.



A general view of the Industrial Estate at Koilpatti recently inaugurated by the Industries Minister Sri R. Venkataraman.

In the Ceramic Industrial Estates the Government has set up a unit for manufacturing the body from ceramic clay and other minerals. The Government has also set up the necessary number of modern kilns for firing the ceramic articles. A number of units have been constructed for occupation by small industrialists who can buy the ceramic body from the Government units, process it into various ceramic articles and have them fired for a fee in the kilns set up by the Government for that purpose.

Similarly, in the Leather Estate, common facilities for specific processes have been created to enable superior production of leather articles. In the field of constructing functional industrial estates, this State has been a pioneer. During the Fourth Plan period, we propose to concentrate in this field and construct functional industrial estates for fruit preservation industries, for electronic industries, for pharmaceutical industries, for foundry industries and for chemical industries.

Ancillary Estates

An ancillary industrial estate is one which houses small industries which cater to the needs of large industries. All over the world large and medium industries purchase a number of bought-out items and have been encouraging small industries to manufacture them. In India Hindustan Machine Tools was the first organization to encourage the setting up of an ancillary industrial estate. In Madras the Government enabled the manufacturers of Royal Enfield motor-cycles to set up a private ancillary industrial estate for the manufacture of various components and ancillary items required in the manufacture of motor-cycles and scooters.

The Government is currently planning to set up an ancillary industrial estate near Tiruchirappalli to cater to the needs of the High Pressure Boiler Plant. This estate will produce a variety of items like castings, forgings, turned parts, machined parts and other bought-out items for the Boiler Plant.

Private Estates

Another significant development during the Third Plan period is the encouragement given by the State Government to the private and co-operative agencies to set up industrial estates. The private company or the co-operative society is expected to raise by way of share capital 20 per cent of the cost of the industrial estate, viz., cost of the land, buildings and general facilities like water-supply, power-supply, rates, etc. The remaining 80 per cent of the cost is given by way of long-term loan by the Government.

The loan is generally repayable in 15 annual instalments. The rate of interest charged so far has been $3\frac{1}{2}$ per cent per year rising to $4\frac{1}{2}$ per cent in stages after 5 years. In future owing to the high rates of interest at which the State Government has to borrow funds it is proposed to give the loan at 7 per cent.

So far, four co-operative estates and two private estates have been sanctioned. Of these, a private estate near Tiruvottiyur has already come into existence. The other estates at Tuticorin, Sivakasi, Pollachi, Vyasarpadi, Coimbatore and Velacheri are in progress. A total loan assistance of Rs. 108 lakhs has been sanctioned so far.

Industrial Areas

The most significant development during the Third Plan period, however, is the introduction of the concept of the industrial areas in the industrial estate programme. This scheme has been introduced for the first time in the industrial estate at Ambattur, where an extent of 1,200 acres has been acquired for the purpose of providing developed industrial sites.

The adjoining area is being acquired by the State Housing Board for developing a large extent of residential area. The successful completion of the industrial estate at Ambattur is an important event in the industrial history of Madras State, since it provides for an integrated development of large, medium and small industries through mutual co-operation and assistance. Similar industrial areas are also being planned in half-a-dozen other places in the State.

Outlook for the Fourth Plan

The success so far achieved in the industrial estates programme in the Third Plan indicates that we should continue the programme during the Fourth Plan. We propose to set up 15 normal functional industrial estates. Besides this, special attention will also be paid for setting up a number of functional industrial estates and ancillary industrial estates. Setting up of private and co-operative industrial agencies will receive special attention. Developed industrial sites will be provided in twelve places in the State.

The Madras State Industrial Development Corporation, Limited, which has recently been set up will undertake the work relating to industrial areas. The Madras State Small-scale Industries Corporation Limited which is proposed to be set up very shortly will most probably take up the work regarding the setting up and administering the conventional industrial estates. We have no doubt, that with the creation of the new organisations and with the allocation of larger funds and with the experience so far gained, we will continue to be successful in implementing the industrial estates programme.

REGIONAL LABOUR INSTITUTE AT MADRAS

Sri D. Sanjivayya, Union Minister for Labour and Employment, inaugurated the Regional Labour Institute at Madras on July 26th, 1965. The Institute would conduct training programmes with the assistance of the specialist staff of the Central Labour Institute and would carry out research and investigations on problems of particular importance or significance to the region. The follow-up activities of the Regional Institute would help to maintain sustained interest in the work indicated so that the **ad hoc** projects conducted in any particular field of specialisation also developed as a continuing activity. It is proposed to have four more Regional Institutes of this kind to cater to the needs of different industrial regions in the country.

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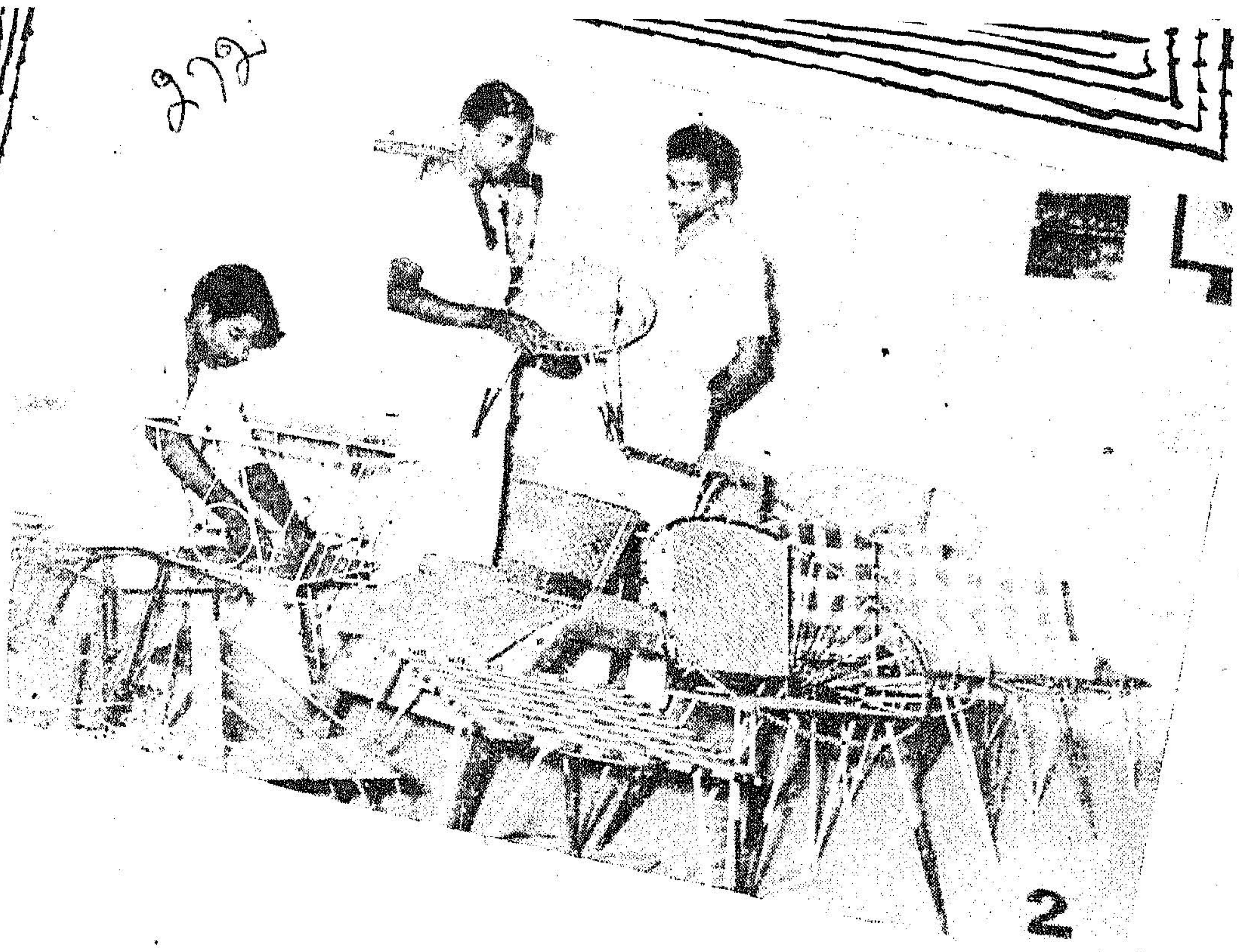

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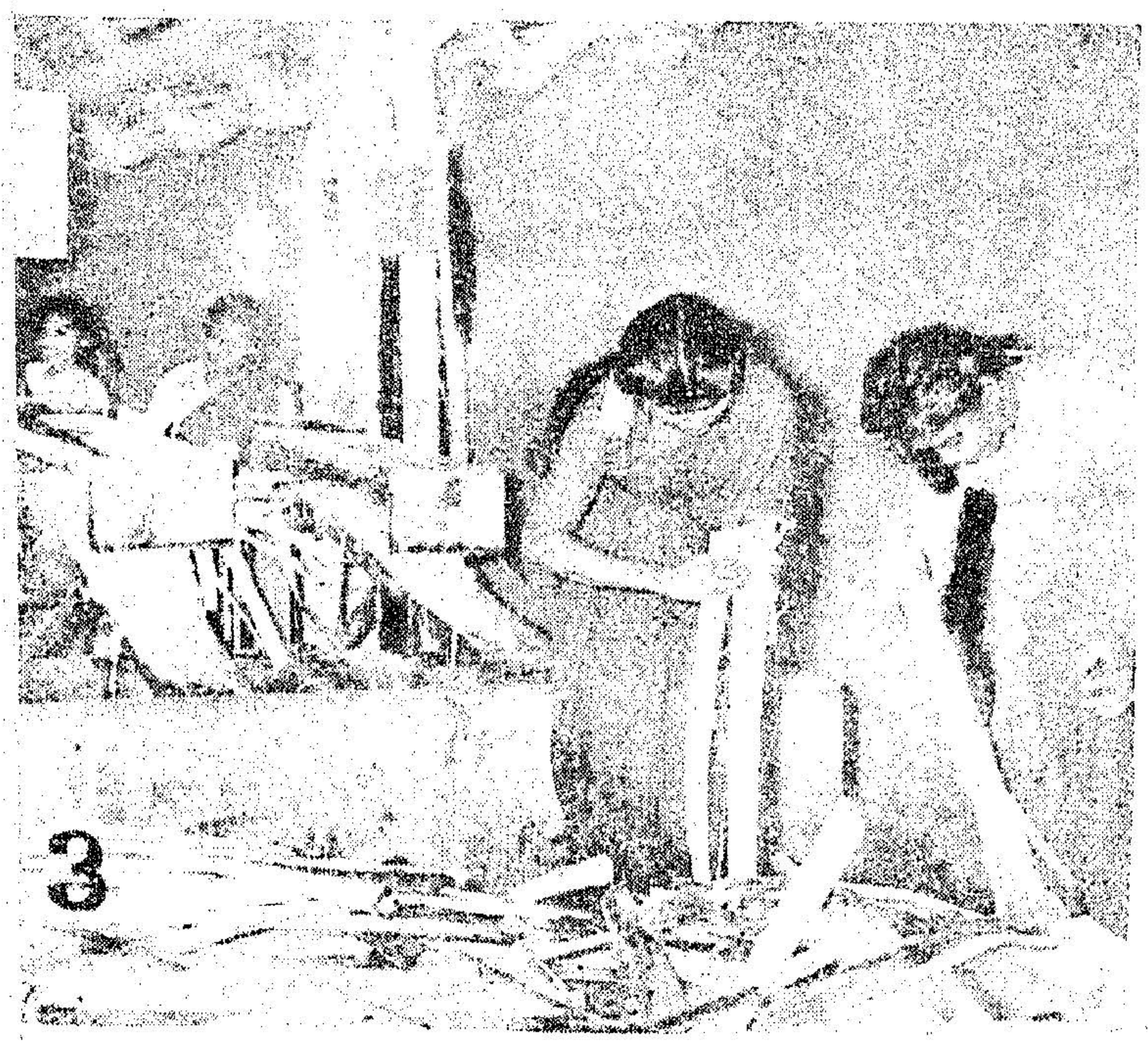
PROGRESS THROUGH
PANCHAYAT UNIONS



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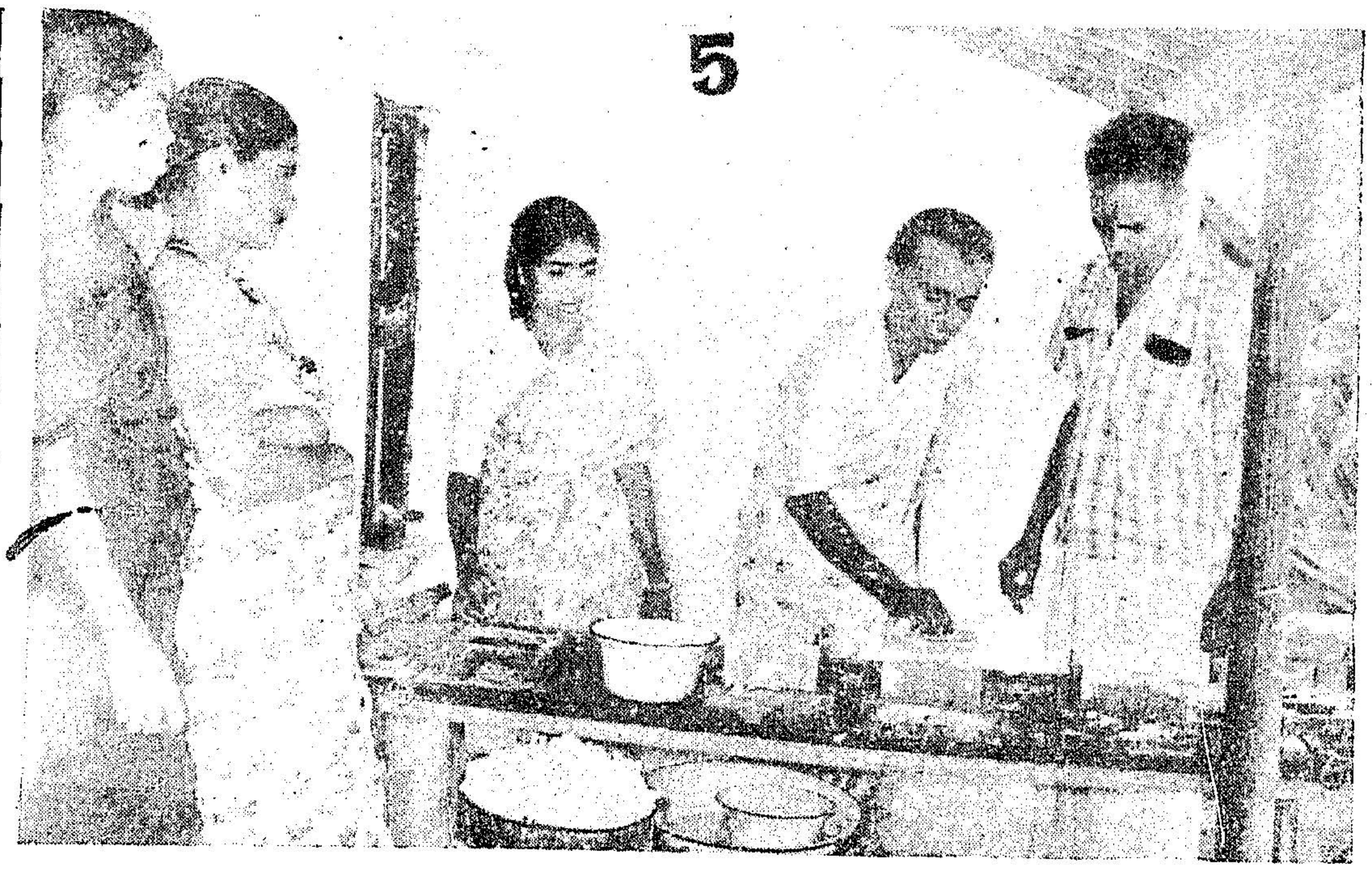

ıpuram Panchayat
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4. Radhapuram Panchayat Union—Brush Making Unit at Thisaiyanvilai Village.

5. Chalk Crayan Traniing Centre, Changanankulam for denotified tribes—Nanguneri Panchayat Union.

Panchayat Development Activities in Tirunelveli District

Gandhiji said in 1946 that the, " Indian Independence must begin at the bottom. Every village should be a Republic or Panchayat having full powers. The greater the powers of Panchayat the better for the people ".

The Madras Government remembered those words of the Father of the Nation. When offered the opportunity it accepted the principle of Democratic Decentralisation. It was confident that with the opening wide of the door of democracy in the countryside a full and rich life would be assured through the work of the millions marching forward to establish the new socialist regime in the State.

The State has been fully covered in the establishment of Panchayats. In all, there are 374 Panchayat Unions covering 12,000 Panchayats in the State.

Development activities

Special emphasis is being laid on the development of scientific method of Agriculture, Family Planning, Children's education and women and youth movements through the Panchayatraj institutions.

Today the Panchayat Unions in every district in this State has become the centre and the source of inspiration to the people of that area. Like the Panchayat Unions of the other districts the Panchayat Unions of the Tirunelveli have readily accepted the increasing responsibilities that were devolved upon them as a challenge and are marching ahead. The development activities of the Panchayats are man Panchayat Plantations, Compost-making, construction of school buildings, organisation of Madhar Sangams, radio rural forums, and VVF are almost common in all the areas.

There are also other important activities which deserve special mention. " Idle-Man-Power Utilisation Scheme " form an important part of the Rural Development Programme. The Famine Relief Works, executed in the district, under the special supervision and personal guidance of the Collector is commendable. In blocks, which are generally dry, repairs to tank-bunds, digging of community wells for irrigation, formation of link roads to hamlets and construction of Harijan quarters, have taken up and are in various stages of progress. Most been of the tanks in Kayathar, Ottapidaram Nanguneri, Valliyoor, Radhapuram and a few parts of Kalakad and Alwarthirunagari Blocks are being renovated.

The community wells are being dug for irrigation purposes in Kayathar and Ottapidaram Blocks. This new item, included under the Idle-Man-Power Utilisation Schemes, provides ample scope for increasing irrigation facilities in arid tracts. Small pattadars having one or two acres, each cannot spend a huge amount of about Rs. 5,000 to Rs. 7,000 for digging irrigation wells. Under this new scheme, an opportunity is being provided for a group of about 10 to 15 small pattadars, who can join together and dig a common well, for irrigation purposes. Such a well becomes the common property of beneficiaries. Steps are being taken for putting up a pump-set, for drawing water from these wells. The question of collecting a reasonable sum as betterment fee for the maintenance of the pump-set, is also under consideration. This new

scheme is welcomed wholeheartedly by a number of ryots. Sri V. Ramaiah, Minister for Food and Sri S. M. A. Majid, Minister of Local Administration, recently inspected a few works of this kind in this area. It is expected, that this will help intensify the Grow More Food Campaign.

A Pilot Project for the development of rural industries has been sanctioned in Nanguneri taluk, by the State Government. A comprehensive survey has been made with a view to assess the available natural resources of these areas and a number of rural industries have been taken up for development.

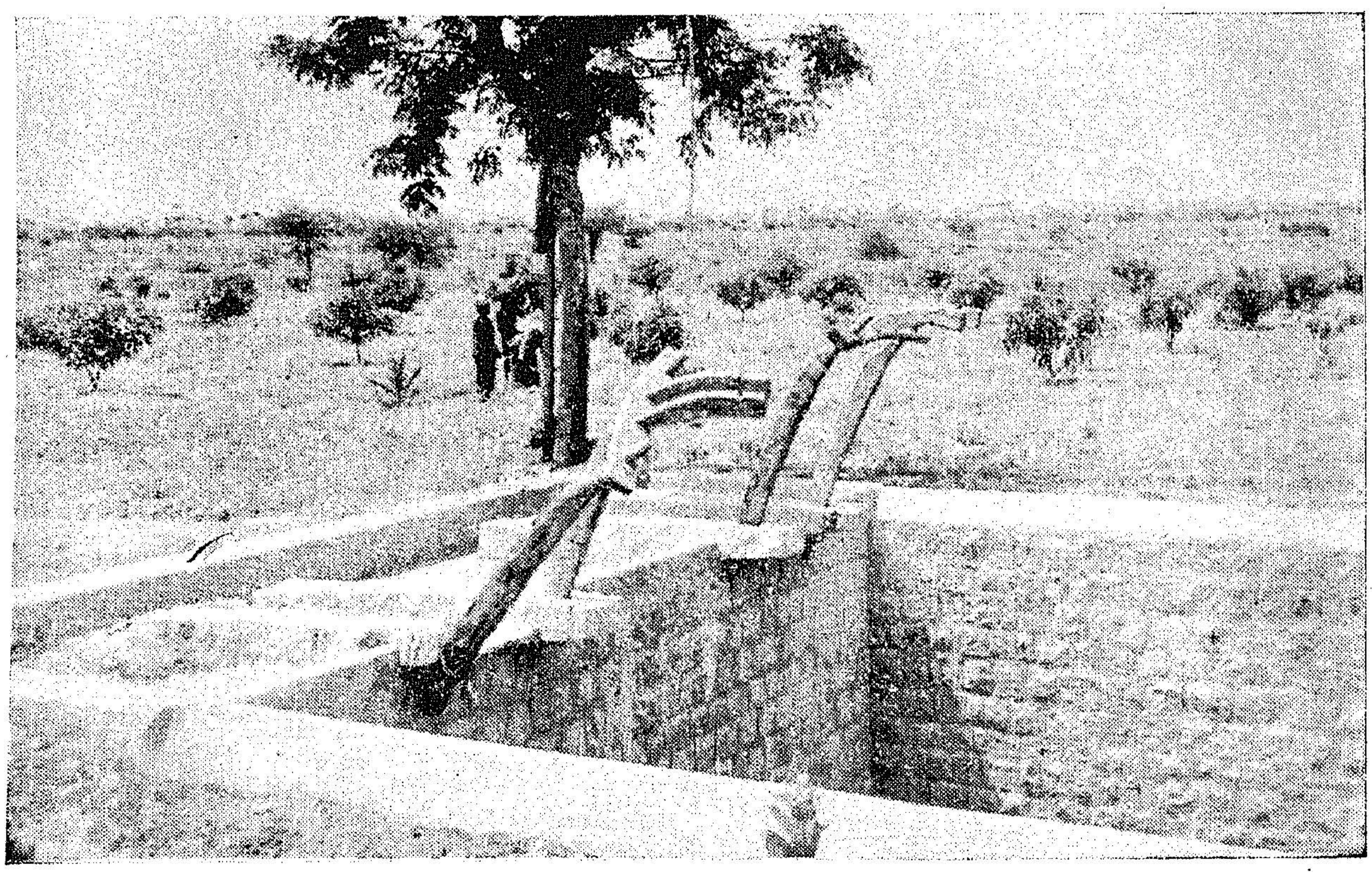
Rural Industries

There is an Advisory Committee for Rural Industries at the State level, under the Chairmanship of the Chief Minister, Sri M. Bhaktavatsalam. The committee is in-charge of co-ordinating the activities of the three Rural Industries Pilot Projects started at Nanguneri in Tirunelveli district, Omalur in Salem district and Sriperumbuthur in Chingleput district.

Palmirah trees are the most important raw materials for rural industries in Nanguneri taluk. A number of schemes are under execution, utilising these raw materials for developing remunerative rural industries. According to the statistics furnished by the Project Officer of the Nanguneri Rural Project, there are about one crore of palmirah trees in Nanguneri Project area which is one-fourth of the total number of palmirah trees in Madras State, and 50 per cent of those in Tirunelveli district.

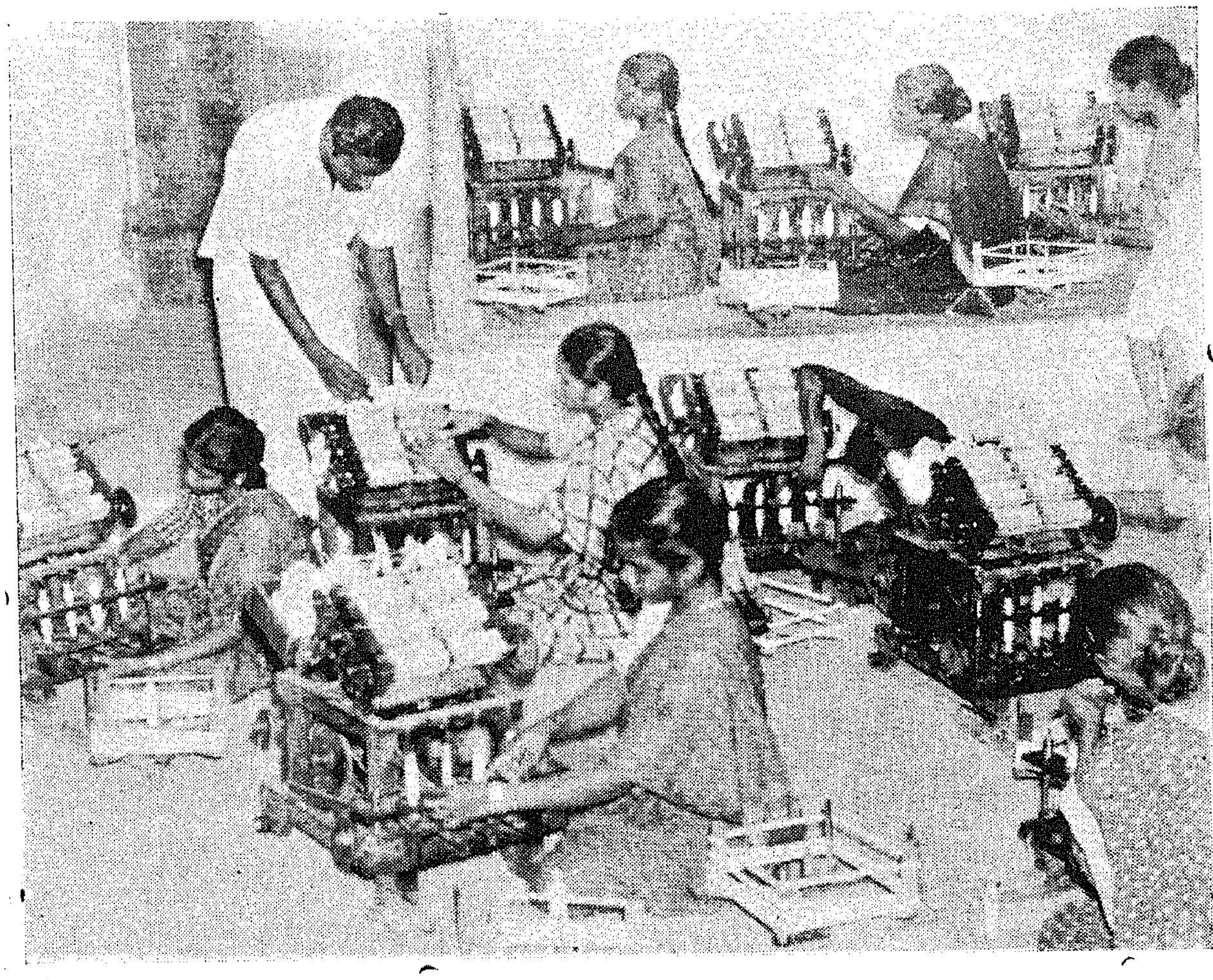
Training centres for the manufacture of palm-leaf products are functioning very successfully at K. Pudur and Vijayapathy in Radhapuram Block and Chettikulam in Valliyoor Block. Sri S. Sounthara Pandian, M.L.A., the Chairman of Valliyoor Panchayat Union, serves as the President of the Project Level Advisory Committee of Nanguneri and a large number of rural industries are coming up, all over the area. There is very good demand for palm-leaf products, produced in these training centres. The trainees are paid a stipend of Rs. 30 per mensem. The Instructors of these training centres, mostly hail from Manappadu (near Tiruchendur) and Melpuram (in Kanyakumari district) which have earned a name for their quality work. It is learnt that the finished products of these centres were very popular and found a good sale at the festival, recently held at Nanguneri.

The training centre for the manufacture of brushes using palmirah fibre, is functioning at Thisaiyanvilai in Radhapuram Block. Twenty trainees, getting a stipend of Rs. 45 p.m. each, are being trained in this Centre and the duration of training is six months. This new industry has a very good future, as there is great demand for these brushes, in the international market. It is expected, that the industry will become very popular in the near future and the finished products may earn a lot of foreign exchange, if this new industry is developed on proper lines.



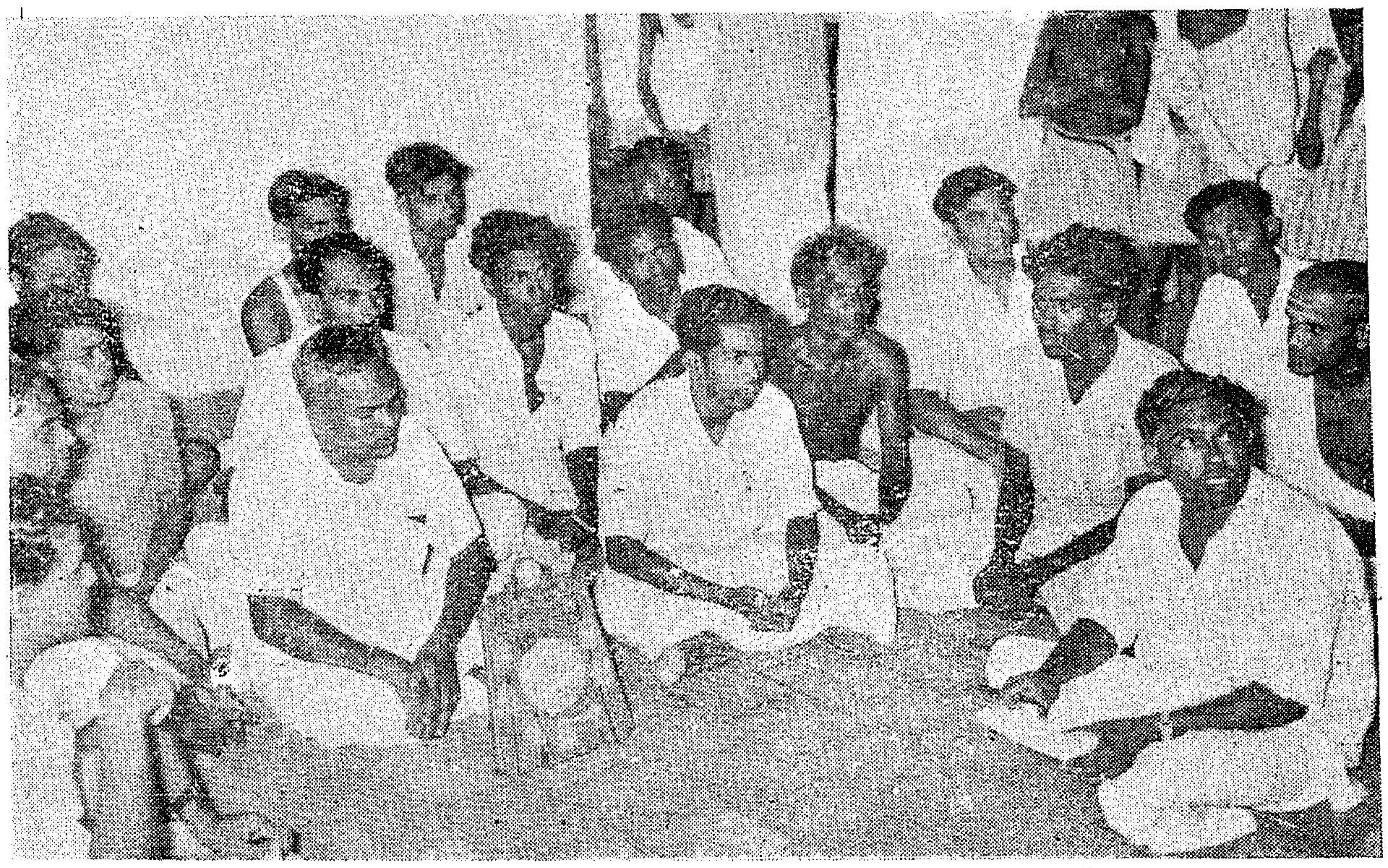
Community wells—a sign of progress through co-operation. More lands come under irrigation. Small pattadars who cannot afford digging wells of their own, join together and dig a common well, for irrigation purposes.

The Blacksmithy and Carpentry Units are functioning in a number of Blocks. New types of useful materials for the villagers, such as, spades, ploughs, iron rims for carts and other agricultural improved implements are being manufactured in these Units. Alangulam Block deserves special credit in this field, as it has created a new record in the manufacture of special types of articles. Attractive furniture and play materials for children are manufactured in the Blacksmithy unit at Alangulam. The finished products are very fine and the quality is good. The prices are cheaper than the market rates. These articles are therefore becoming very popular. The initiative and geal evinced in this matter, can be jointly shared by the Extension Officer (Industries), Block Development Officer and a skilled worker by name Sri Sundara Nadar.



The Gandhian Way—Women at the Ambar Charka.

The training centre for the manufacture of Banana fibre and starch utilising Banana stems, is functioning at Karunyapuram, with the assistance of Khadi Commission and the Madras State Khadi and Village Industries Board. Ambar Charka Programme is being implemented in a number of villages in the entire Nanguneri taluk and most of them are functioning very successfully at Panakkudi village, where the "Tamil Nad Sarvodaya Sangh" is running a number of rural industries such as Khadi weaving, soap-making, brick kiln, etc. Highdraft Ambar Charka Unit, is functioning on experimental basis at Kalligulam (in Radhapuram Block), which is the first of its kind in the district. A training centre for the manufacture of chalk-pieces is run successfully by the Women's Welfare Department at Sanganankulam. Trainees of this unit are women of denotified tribes. All these industries provides employment for a large number of village artisans, especially women.



Listening Radio Rural Forums which provides latest information to the people.

Radio Rural Forums

Radio Rural Forums are functioning effectively in all the Blocks, as agencies, for the exchange of views among the farmers. Authentic information about the activities of the various departments and other matters of importance are made available to the rural folk,

Saving for prosperity—Hundi Savings is getting popular among women in Tirunelveli district.

within a week, in the questions and answers programme of the Radio Rural Forums.

Alagappapuram Panchayat in Alwarthirunagari Panchayat Union, has a Radio Rural Forum, which has sent about 170 questions to the All-India Radio and 80 per cent of them were answered. In two other Panchayats, namely, Nallur and Sivalarkulam in Alangulam Block, Radio Rural Forums have assisted in increasing the production of Compost-manure and other welfare activities in these villages.

Radio Mandram, a monthly bulletin in Tamil, is being published for announcing the rural programmes of the All-India Radio in advance and copies of the bulletin are being sent to all Blocks. It may be recalled that the Radio Rural Forum Programme was inaugurated by Sri Kamaraj, the then Chief Minister, at the time of the First Conference of the Panchayat Union Chairmen of Madras State, held at Tiruchirappalli on the 15th July 1962.

Small Savings

It is learnt, that Madhar Sangam in all Blocks are engaged, in conducting classes on tailoring, embroidery, etc. A few members are evincing keen interest in the distribution of hundies for Small Savings. Generally brass vessels for their families are being purchased from the hundi savings. Special mention must be made of the Madhar Sangams (in which most of the members were Harijans) at Bommaiyapuram in Kayathar Block and Tharuvaikulam in Ottapidaram Block which are very enthusiastic in the Small Savings Drive. Hundies are distributed among women and the Small Savings Campaign is being intensified by the Block officials.

FAMILY PLANNING ESSENTIAL

Family Planning is essential not only for the control of population but for the health and well-being of mothers and children. I hope the efforts of our Government will be speeded up.

—Dr. S. Radhakrishnan

STATE'S FOURTH PLAN

The Fourth Plan of Madras State envisages an outlay of Rs. 750 crores for centrally assisted schemes with Rs. 65 crores on centrally sponsored schemes. Sri M. Bhaktavatsalam, Chief Minister, presenting the draft outline of the Plan in the Assembly on 27th July 1965 said that it would be bigger than all the three previous Plans put together.

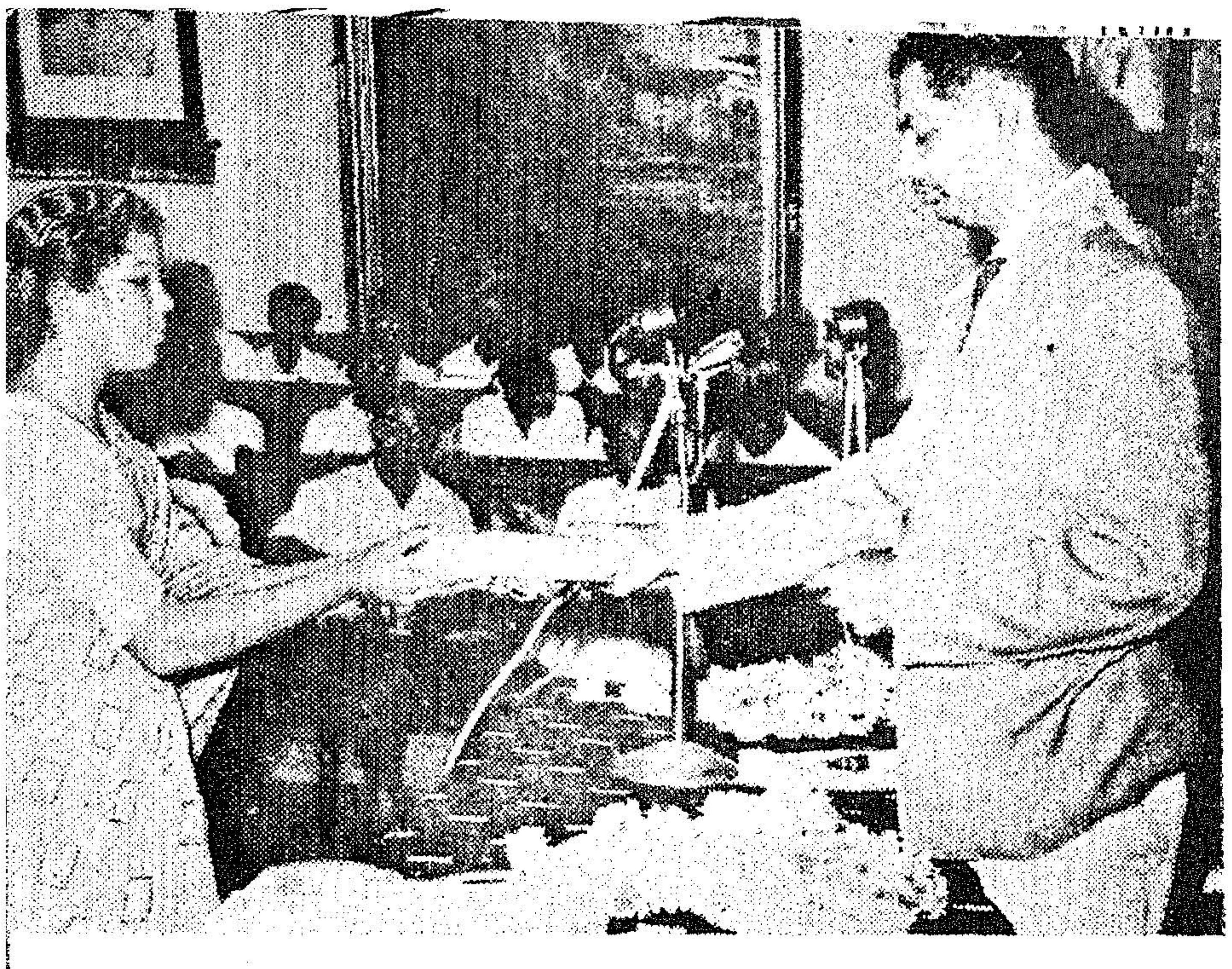
The Plan accords top priority for augmenting agricultural production. The aim of Fourth Plan is to step up food production from 65 lakhs of tonnes anticipated by the end of the Third Plan to 82 lakhs of tonnes. The problem of drainage in the Cauvery Delta will also be tackled during the Fourth Plan. Power Schemes will get about Rs. 217 crores, Rs. 30 crores will be spent on rural electrification alone, which includes provision for an additional 2·5 lakhs of power pump-sets connection.

For the expansion of education at different levels the Plan provides about Rs. 80 crores.

The Chief Minister further said that the Plan, as now drawn up breaks new ground in assigning a more important and direct role for the State Government in the Industrial Development of the State.

Outlays on previous plans are as follow: First Plan—Rs. 80·38 crores; Second Plan—Rs. 187·76 crores; Third Plan original outlay—Rs. 290·88 crores. It is anticipated that the final outlay of the Third Plan might be of the order of Rs. 340 crores.

STUDENTS AND THE SMALL SAVINGS MOVEMENT

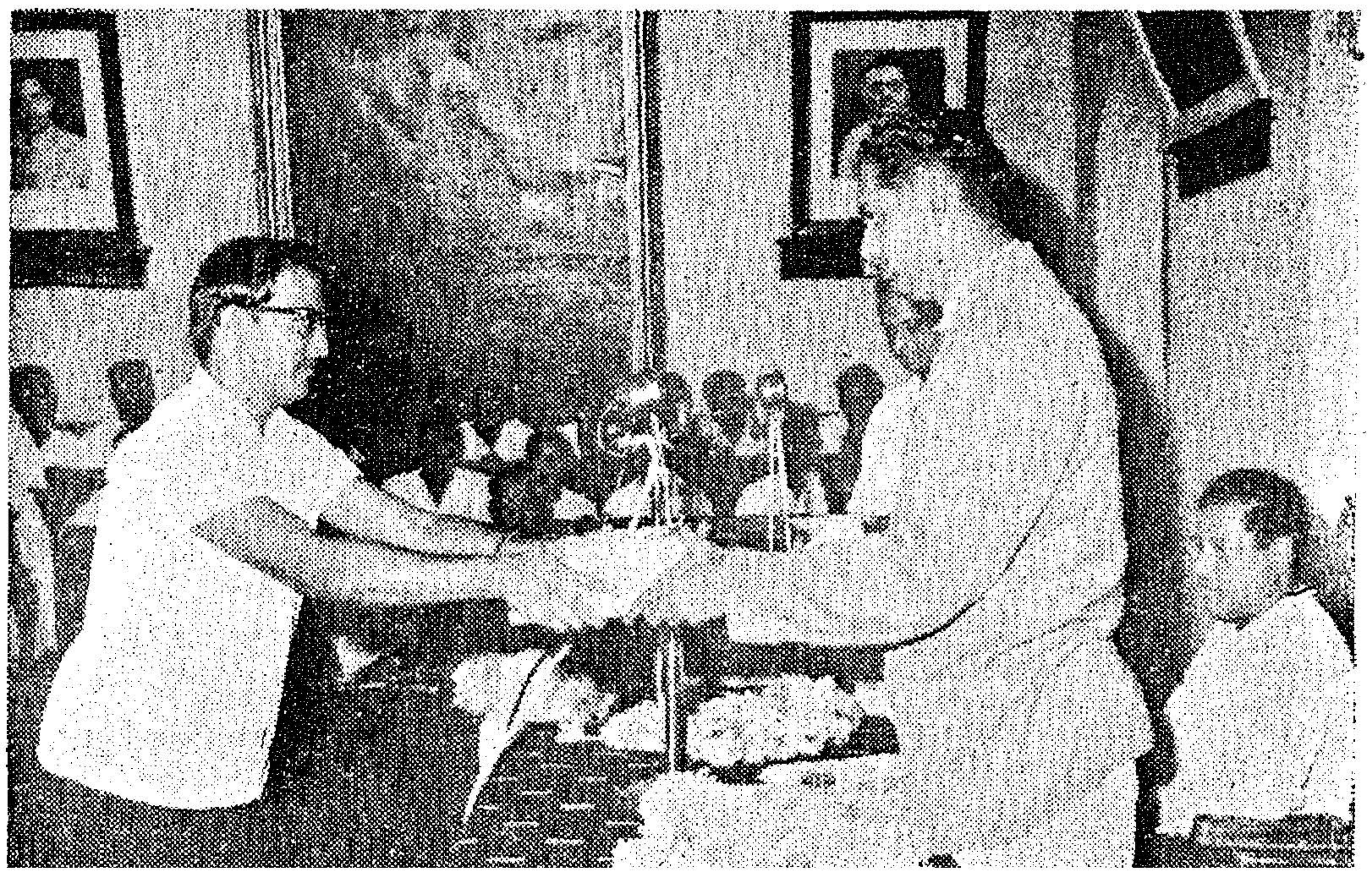


The Suburban High School student Miss C. S. Vathsala receiving the first prize on Small Savings Scheme oratorical contest from the Collector of Coimbatore.

The Union High School student Sri R. Mani receiving the first prize on Five-Year Plan publicity oratorical contest from the District Collector, Coimbatore.

The Government Secondary and Basic Training School student Miss C. R. Santha receiving the consolation prize on Small Savings Scheme oratorical contest from the District Collector, Coimbatore.

The Headmaster of the Suburban High School receiving the rolling shield for deputing the best team for the oratorical contest on Small Savings Scheme from the District Collector, Coimbatore.



SOME ASPECTS OF *Chick Hatchery*

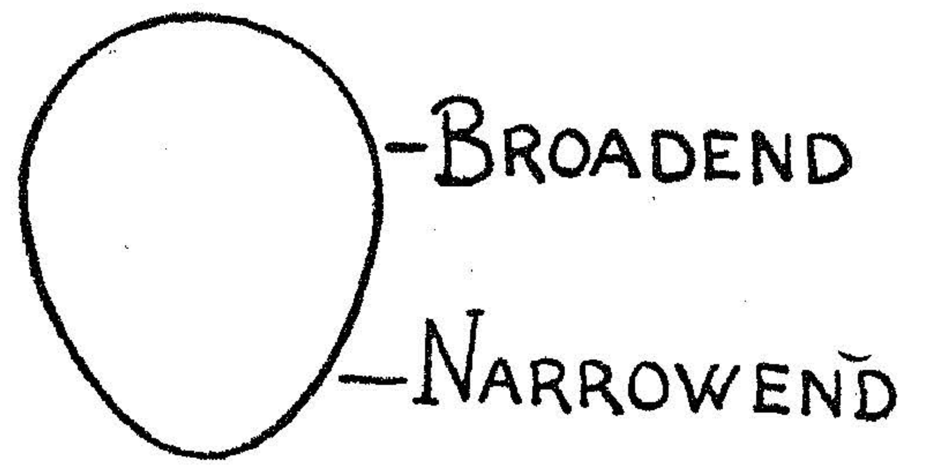
DR. K. V. PARTHASARATHY AND DR. S. RAJAN,
Poultry Research Station, Madras-35.

Some aspects of Chick Hatchery Scheme for the Village Level Workers under the Applied Nutrition Programme in Madras State is discussed in this article.

Well-begun is half done and with this motto, hatchery operations either on a small scale or on a big scale begin with the selection of eggs for hatching. A village level worker can use the following as his guide :—

Selection of Hatching Eggs

Eggs for hatching should be of proper shape. The standard for proper shape is, that at the broadest point, it should be $1\frac{5}{8}''$. The broadest point is 1″ below the broad end of the egg



Size.—Eggs weighing 24 ounces per dozen alone should be kept for hatching. Over sized or undersized eggs or mishapen ones should not be used for hatching.

Age.—Under proper condition of storage, it is generally accepted that eggs of less than 10 days of age can be set for hatching. But under our village conditions, eggs are not stored under ideal conditions and so it is recommended that eggs should be saved for hatching 6 or 7 days before the actual date of setting.

Eggs with defective shells such as thin-shelled ones, cracked and those showing body checks should not be used for hatching. Eggs showing germ development or meat and blood spots should also be discarded.

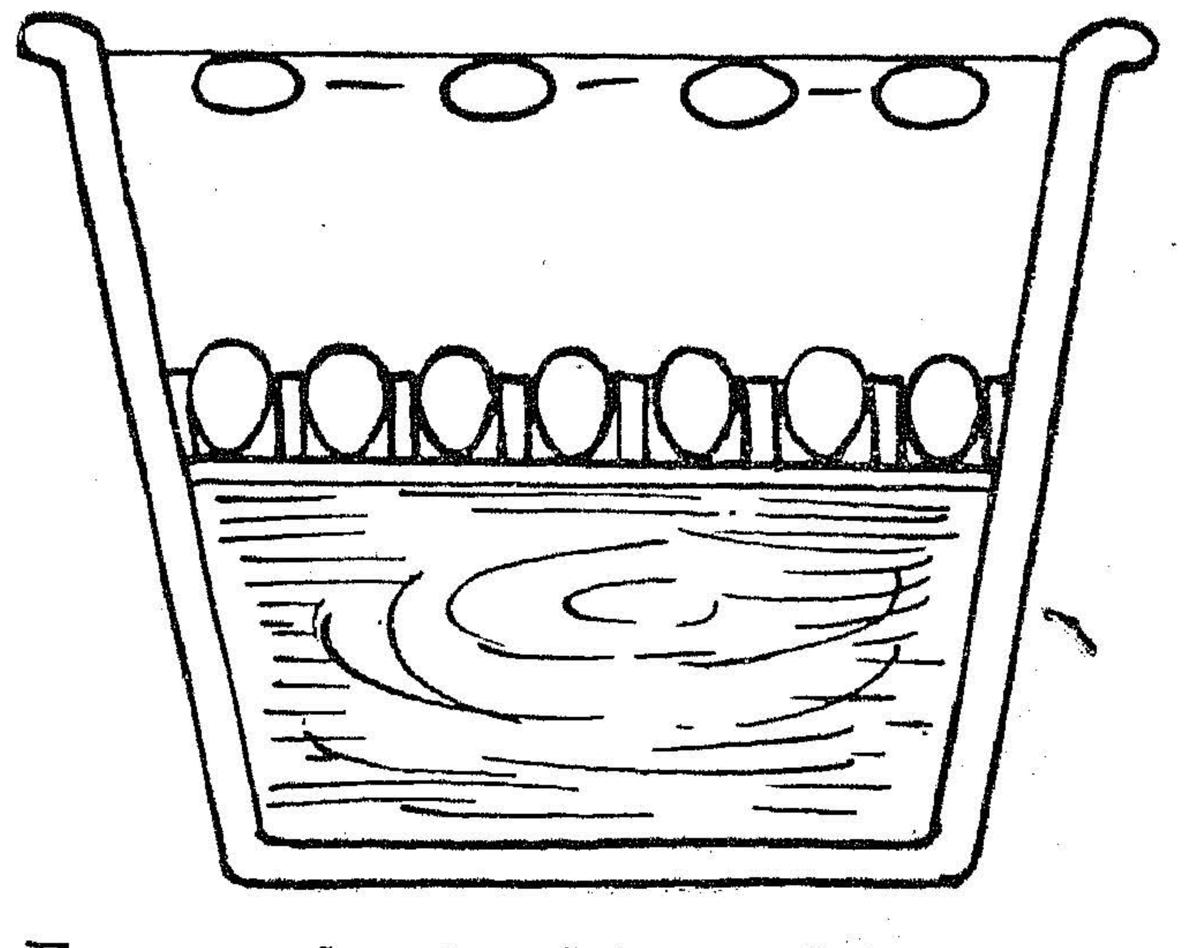
Mottled eggs should not be set for hatching.

Eggs from birds manifesting diseases like chronic respiratory disease and infectious Coryza should not be kept for hatching.

Hatching eggs should not be stored in places where smelly substances like onion, fishmeal, garlic, etc., are stored.

Some practical methods for storing eggs in villages :—

(1) Take a mud tub. Fill it up with one-third clean cool water. Over the water surface, keep a bamboo frame having holes to hold eggs. Cover the tub with a lid having perforations. This provides for evaporative cooling and eggs can be kept for atleast 10 to 12 days. This has been tried at Bhavanisagar and found to be suitable under our village conditions.



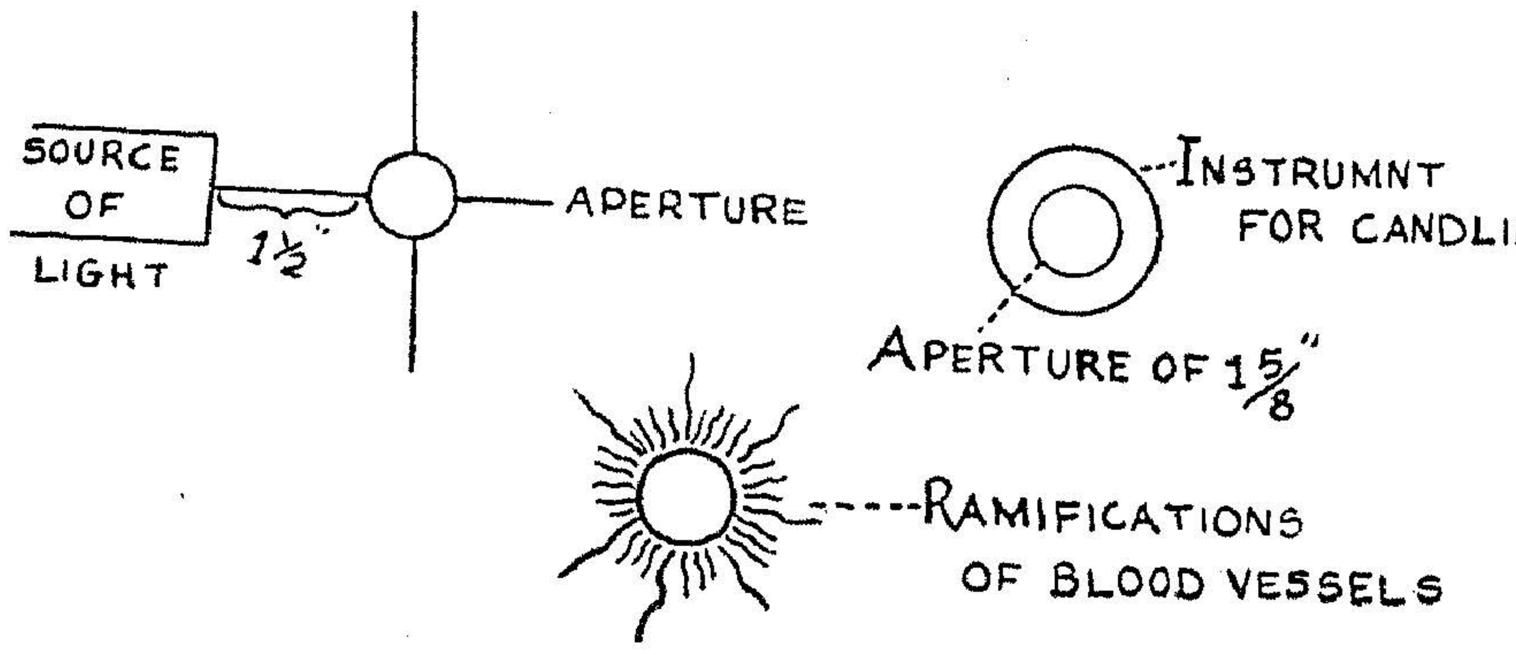
(2) Eggs can be stored in sand kept in a pot and covered with a wet gunny.

For enhancing the keeping quality of table eggs, produce infertile eggs in the farm. Infertile eggs keep better than fertile. In South Indian villages, when oppressive summer begins in April, remove the cocks from the flock and keep them away from the hens. Cocks are not at all necessary for the hens to produce eggs.

By about June 10th or so, re-introduce the cocks into the breeding pens. Start saving eggs for hatching 10 days after the cocks are introduced into the flock.

Candling

In simplest terms, candling is defined as the process of finding out the internal qualities of an egg in a dark room without breaking it open, making use of a source of light which is principally electric light. For candling 25 watts bulb is used. A green coloured bulb is preferable. This source of light should be atleast 1½″ from the aperture. The following sketch will explain the principles involved in candling :—



With a good candling equipment, it is possible to find out whether an egg is fertile or not even the 2nd day of incubation though in actual practice, fertile eggs can be found out easily on 4th day of incubation. When the eggs are candled on the fourth day, a fertile egg will have the following appearance :—

Under the Applied Nutrition Programme "Lanyon" incubators (143 Eggs capacity) have been supplied. This incubator is provided with a mechanical contrivance to turn the eggs instead of the laborious process of turning eggs individually. Start turning the eggs after the 3rd day of incubation and stop turning eggs from the 18th day. For the last 3 days of incubation, no turning of eggs should be done because the chicks about to pip out should not be disturbed and allowed to assume positions which will facilitate easy breaking of the shell and thus allow the chicks to come without difficulty. Maintain the humidity at about 60 per cent as under natural breeding, the humidity has been found out to be 59·2 per cent. The incubation temperature should be maintained at the level indicated by the manufacturer. Maintenance of optimum temperature and humidity are of paramount importance to obtain good hatch.

After the chicks have hatched out and when they are dry, transfer them to a wooden brooder. The brooder will cost only about Rs. 30 to 40 with capacity for rearing 300-day old chicks.

Never starve the chicks. The old belief that chicks during the first 24 to 48 hours of their lives do not require any feed is wrong. Provide ample food and clean drinking water in the brooder to be available at all times. The chicks will eat and drink whenever they want. There is no other surer method of killing chicks or adults than by withholding water for 48 hours.

A brooder of 3′×5′ as given would have 15 square feet or 15×144 : 2,160 square inches. Seven square inches of hover area per chick is to be provided and so this brooder will provide for 308 chicks, i.e., 2160/7 : 308 chicks under cold conditions and under hot weather conditions this would provide for 400 or 450-day old chicks.

Here is a sample of the calendar of operation that may be followed by a village level worker.

Chick hatching

March 31st—Remove all cocks from the pens.

1st April to June 10th—Dispose of the eggs collected, for table purposes. Only on June 1st, introduce the cocks into the breeding pens. June 10th : Start saving eggs for incubation. A farm of 60 layers will give 30 eggs with the right type of feed and managed properly. Out of the 30 eggs, select 18 eggs per day for hatching and send the remaining 12 eggs for distribution

Srimathi Indira Gandhi, Union Minister for Information and Broadcasting at a reception given to her by the South Indian Film Chamber of Commerce.

programme. Thus for 8 days, you get 18×8=144 eggs and thus one such "Lanyon" incubator can be loaded to this capacity. When once the incubator is loaded, then dispose off the daily collection of eggs for consumption purpose and when the chicks are about to be hatched, i.e., from the 18th day onwards, start saving eggs for hatching as described above for the next incubation. After the removal of chicks, fumigate the incubator with Kmno-4 and formalin. To 17·5 grams of Kmno 4 add 35 c. c. of formalin for every 100 square inches of incubator space. This dosage is very important for successful hatching. It is necessary to clean the trays well using antiseptic lotion and coir brush.

The chicks of today are the breeding stock of tomorrow. Success in brooding is defined as follows :—

(1) Mortality less than 5 to 6 per cent only up to 10 weeks of age.

(2) Chicks must grow uniformally, i.e., uniform body size, feathering, etc.

(3) Chicks should be healthy.

(4) Feed efficiency should be 2 lb. For every 2 lb. of feed consumed by the bird, 1 lb. increase in live weight must be there.

(5) At 8 weeks of age, body weight should be: Cocks—2 lb. and Pullets—1½ lb.

The critical life of chickens is the first 2 weeks of age. If they live in the first two weeks, they can be expected to live right through. For a chick to reach the body temperature of 107°F, it takes about 7—10 days. The body temperature of chicks as it comes out of the egg will be 100°F. That is why you provide warmth inside the brooder house under the hover.

It should be possible in the villages especially at the R.E.T.C. Workshop Wings to make wooden brooders at a cheaper rate with the dimensions enunciated in a previous paragraph.

With the dimensions enunciated in a previous paragraph, the warmth provided in the brooder should be distributed uniformally so that the chicks will feel comfortable and be distributed through the brooder area uniformally.

Brooding condition

When natural incubation is resorted to, the mother hen takes care of her offsprings by providing the required warmth. But in artificial brooding, provide conditions conducive to normal rapid growth. To achieve this end, follow the principles enumerated below :—

Age of chicks In weeks	*Brooding temperature*
0—1	95°F
1—2	90°F
2—3	85°F
3—4	80°F
4—5	75°F
5—6	70°F

A brooder can easily be made, as described in a previous paragraph, with spare empty dealwood cases and if electricity is available, you should provide 2 watts for each baby chick.

Each baby chick required 7 square inches of hover space and a hover of 60 inches diameter will hold 300—400 chicks.

(*b*) The following may be used as a guide for rearing chicks.

Age of chicks In weeks	*Floor space per chick* SQ. FEET.	*Feeder space per chick* INCHES.
0—4	0·5	1
4—8	1·0	2·5
8—12	2·0	3
Above 12 weeks	2·0	4

(*c*) Water space—

Age In weeks	*Space required*
3	$\frac{1}{4}$ per chick.
3—8	$\frac{1}{2}$,,
8 and up	$\frac{3}{4}$,,

Srimathi Indira Gandhi who visited Madras recently is seen with the Balwadi children at Avadi.

Hence it is very important that the Village Level Worker should take continued personal interest to see that the chicks are housed comfortably. The comfort of the chick is an indicator of the correct temperature in the brooder house under the hover.

With the qualified Veterinary Assistant Surgeon available the Poultry Extension Centre at Block Headquarters it should be possible to prepare balanced feed to the birds for supply to villages. Depending on the facilities available, the Veterinary Assistant Surgeons at the central unit will be manufacturing feed and sell them to other breeders on a no-loss and no-profit basis by making use of the equipments received under UNICEF aid.

Purchase of the grains, etc., and manufacturing Poultry feed have been taken up under the Crash Programme at Madras and as the scheme progresses, it may be possible for the Officer in-charge of the same to provide chick Mash to breeders.

Vaccination

The Village Level Worker should be held responsible for the carrying out of vaccinations like R.D. Vaccination with F1 strain, pigeon pox vaccination, de-worming, Ranikhet Vaccination and fowl pox vaccination. The Extension Officers, Animal Husbandry and Veterinary Assistant Surgeons in-charge of Applied Nutrition Programme will carry out the same on demand from the village level worker. The periods when these vaccinations are to be conducted should be noted in a calendar in consultation with the Veterinary Assistant Surgeons, and action taken well in advance so as to ensure the routine being carried on.

Presuming that the village level worker gets a minimum of 50 per cent hatching it, will be seen that he gets about 70 chicks every 21st day. It is enough if he maintains them for about 8 weeks, for, by that time all the preventive vaccination would be over, and the chicken can well be given to those who are ready and eager to rear them. This arrangements would always leave 3 sets of chicks with him in 3 brooders.

The list of persons to whom the chick are to be distributed can be prepared well in advance so that a regular supply may be arranged. Chick breeders association may be formed and they can work out arrangements to be made to house and feed the chicks in the proper way in which it should be done. This kind of education is absolutely necessary for villagers, for as it is, they are of the opinion that a few chicks purchased and let loose should all grow up and give the maximum number of eggs with no part played by them to think, plan or execute feeding or management arrangements. If additional accommodation and facilities are made these chicks will grow and replace older birds in the villages under Applied Nutrition Programme. Large number of chicks reared to adult stage by enthusiastic workers, may be given to other village panchayats with a view to open new Poultry Units in hamlets too.

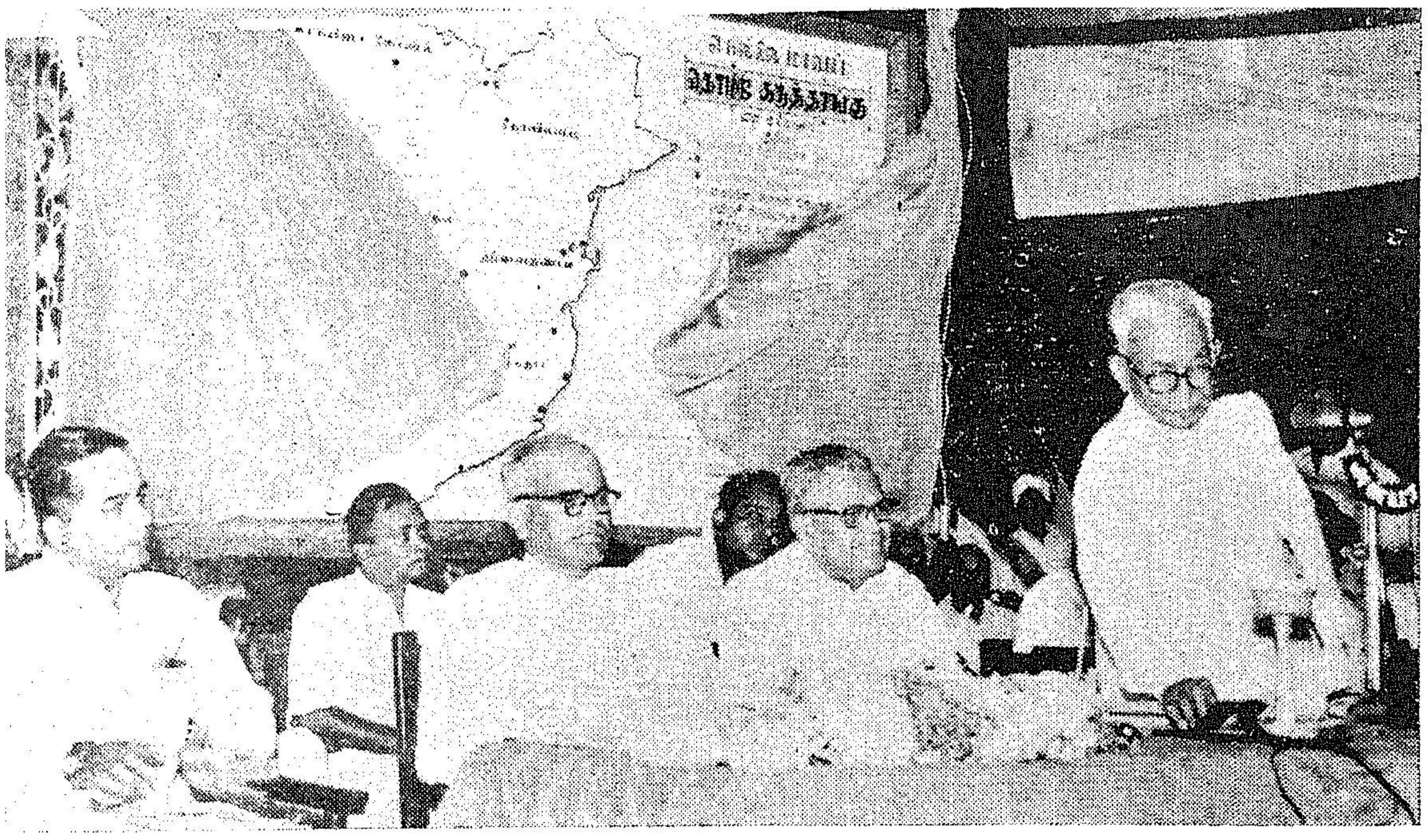
Chick hatchery education

A number of leaflets in Tamil regarding poultry-keeping should be prepared and left with all the poultry workers under the Applied Nutrition Programme Scheme. The staff in-charge of Applied Nutrition Programme Poultry Scheme will be paying frequent visits to these units making use of the vehicles supplied under this programme with a view to advice the Village Level Workers, and other poultry breeders often and to carry out periodical preventive vaccinations, etc.

There are enough number of vehicles in the Applied Nutrition Programme and it should not be found difficult to provide them with vehicles whenever they should go for visit to village units. A number of such units started in a Block would necessitate undertaking of tours by the staff of Animal Husbandry Department at least 15 days in a month.

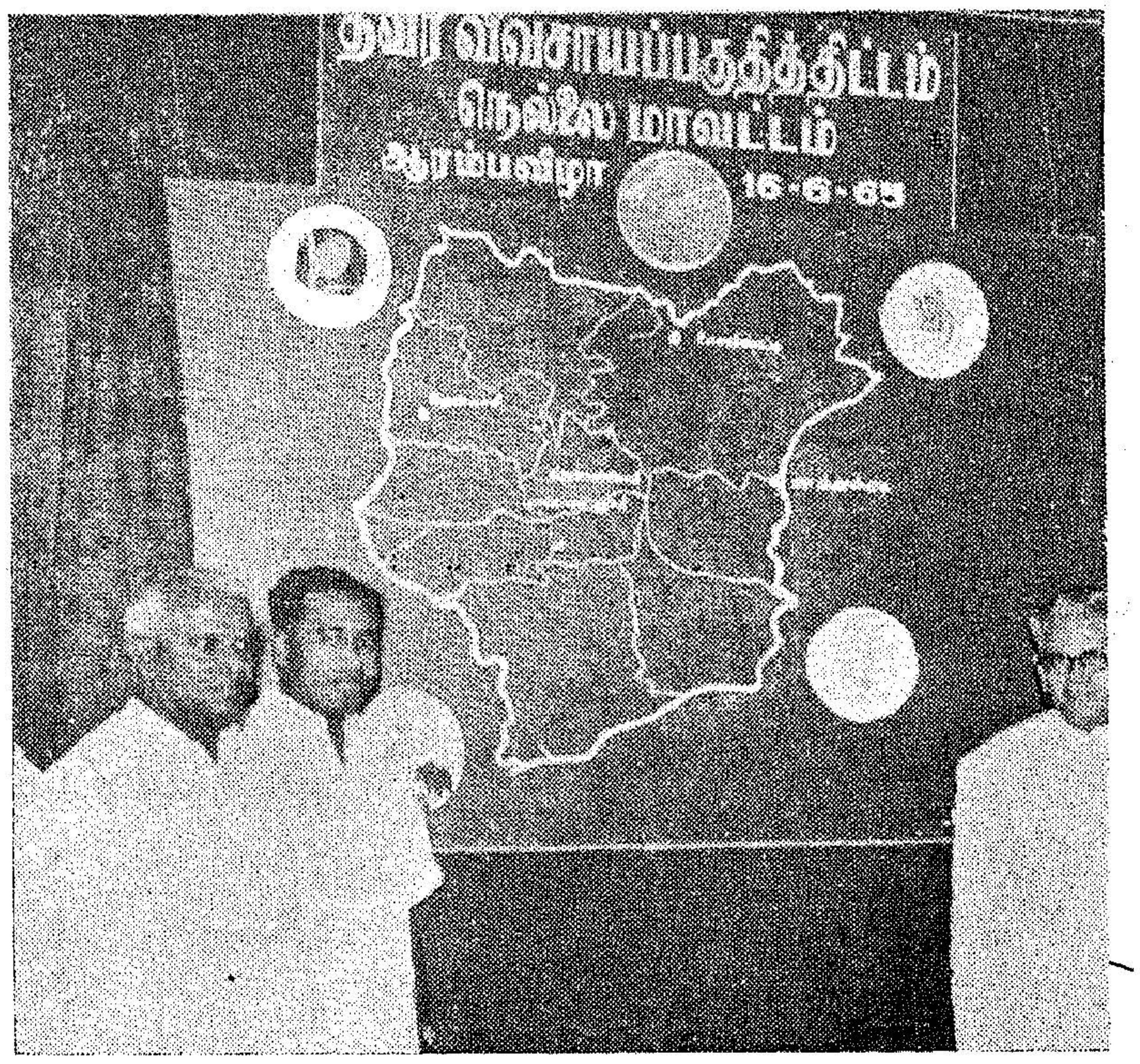
The department of Animal Husbandry will be rendering all technical help in running the Poultry Units successfully with the active co-operation of the villagers and the officers of other departments connected with this programme.

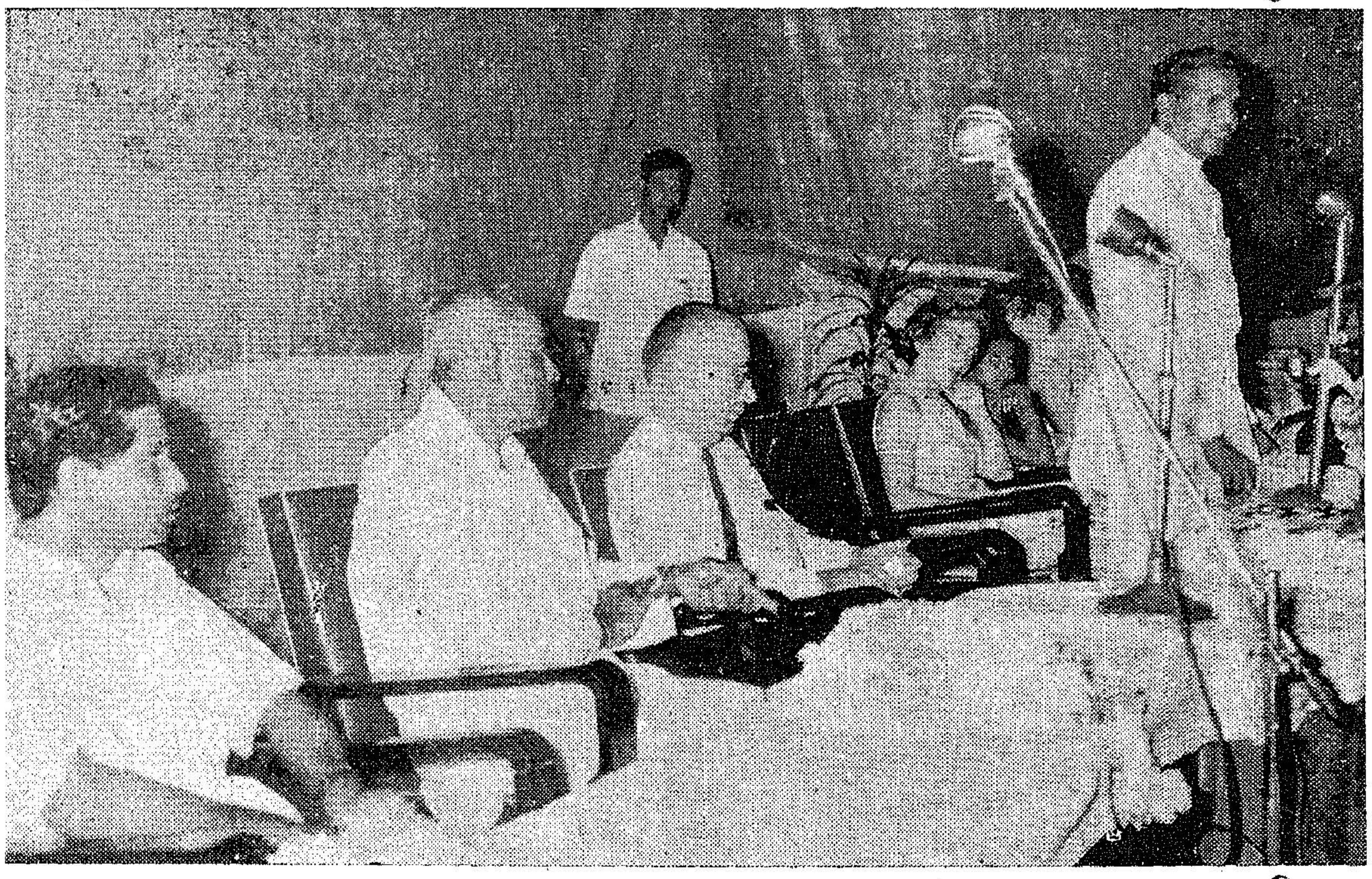
[The authors are greatly indebted to Dr. E. V. Babu, Grain Purchase Officer, Poultry Feed Manufacturing Unit, Madras, for his help in preparing this article. The help of the other colleagues working with them in the Poultry Research Station, Madras-35 is also gratefully acknowledged.]



Tirunelveli District Industries Seminar was inaugurated by the Chief Minister. Industries Minister presided over the function. Speaker Sri Chellapandiyan released a Souvenir on the occasion.

Sri R. Venkataraman, Industries Minister, inaugurated the Intensive Agriculture Scheme at Tirunelveli.





Sri G. Bhuvarahan, Minister for Information and Publicity, who opened the Agricultural Exhibition at Kancheepuram, is addressing the gathering.

The Chief Minister, who inaugurated the Intensive Agricultural Area Programme at Kancheepuram, is going round the Agricultural Exhibition organised on the occasion.

TRAINING THE ARMY FOR NEW TASKS

Over 3,00,000 Jawans and more than 10,000 Officers have been recruited to the Indian Army after the declaration of the Emergency. Recruitment of 3,00,000 men has meant the screening of 14,00,000 to 15,00,000 volunteers—a task the magnitude of which can well be imagined. This article explains what it has meant to train the large numbers finally selected from raw young men to tough soldiers.

Rarely in history has an Army been called upon to double its size in a short period and at the same time to arm itself with new weapons and equipment. The Indian Army can pride itself on the fact that its large-scale programme of recruitment of officers and their training has been effectively carried out according to plan.

The raising of new Army Divisions to meet any possible Chinese challenge has not only necessitated recruitment of a large number of young officers and men but also resulted in considerable expansion of the training programme in several Army training centres and schools scattered all over the country. In certain cases new training centres have been set up to meet the large training recruitments.

The training of an army depends upon the training of three components, firstly, the troops who have to be trained to use effectively the weapons and equipment of their trade; secondly, the leaders, specially the officers have to learn the use of the weapons and equipment of their troops and to instruct their troops in their use and at the same time have to be trained in leadership of their men; and thirdly, is the training of the units, which means welding the leaders and their men effectively together to enable them to carry out different kinds of operations.

Sri K, Kamaraj laid the Foundation stone for the "Kovai Pudur" Housing Scheme. Industries Minister Presided.

New training centres

In order to meet the additional man-power required for the raising of new divisions for the Indian Army, a large number of people who were recruited for different branches of the Army were sent to training centres to get their basic training. The type and period of their professional training, however, differed depending on the branch for which they were selected. For example, in the Corps of Signals, the soldier after getting the basic training has to be trained in his trade like operating a wireless set and telephone exchange.

The raising of new centres meant selection of new locations, construction of buildings, provision of equipment for training of the soldiers and getting items like clothing, boots, etc., for equipping the young recruits.

The first and foremost problem faced was to get men to serve as instructors in these training centres. Trained personnel from existing units had to be brought out to form the nucleus or the 'hard core' for the new units which were to be raised : this process in Army parlance is called "milking".

In order to meet the urgent need for raising additional units, the period of training of recruits was reduced. Longer hours of work and intensive use of the limited equipment available helped to ensure adequate training

of the recruits. The training, however, placed heavy burden on all the instructors who had been inducted in from the units to cope with the expansion ; for example the Artillery Centre at Deolali had to deal with four to five times its number of the pre-emergency capacity.

Another important problem was to train sufficient men in technical trades since such training takes longer than the training of men for units. Full advantage was taken of the training facilities available in civil institutions for the technical trades particularly in training motor drivers for the Army. This has helped the Army to a considerable extent.

Training the officers

The problem of training the leaders who were required very urgently to man the expanded Army was one of the biggest one. A large number of young men came forward to join as officers. These young men were tested at Selection Boards before being sent for training as officers. Indian Military Academy at Dehra Dun was the only institution for training of officers. This was expanded and its capacity raised to four to five times that it had been before the emergency. Two Officers' Training Schools, one at Poona and the other at Madras were started in January 1963 so as to meet the need for training a large number of officers required for the expanded Army. The training of the Emergency Commission Officers was for six months. It is gratifying to note that these young men who came forward to join the officer ranks undertook to the training with enthusiasm which not only eased the task of their instructors but also enabled them to be trained to the required standard during this short period.

The expansion of the Army also resulted in the promotion of a large number of Junior Commissioned and Non-Commissioned Officers in units, who, in many cases, were raised to two ranks above their previous ones in a short period of three to four months. It was therefore necessary that these officers had to be given training to be able to instruct and train the young soldiers who were coming to join the units. Such training was given in different schools of instruction such as the infantry School at Mhow. The capacity of all the schools of instruction was therefore expanded to deal with the training not only of young officers who were coming out of the Indian Military Academy and the two officers' training schools but also of the Junior Commissioned Officers and Non-Commissioned Officers from units.

Grooming for Mountain Warfare

The training at schools and centres has also to be re-oriented to meet the requirements of the changed situation. The officers and men have to be groomed to the peculiarities of operation in mountains such as lack of roads, difficulties of terrain, presence of numerous natural obstacles ; quicker tiring of personnel and wearing of equipment, sharp climatic changes, adversely affecting the conditions of armaments and technical equipment, the occurrence of landslide and snowslips.

A High Altitude Warfare School was set up where training is given to operate under conditions involving movement of skis, rock and glacier climbing. Other schools have also been devoting a good deal of time in orienting the leaders in being able to function effectively in the mountain and jungle terrain in which we may have to fight.

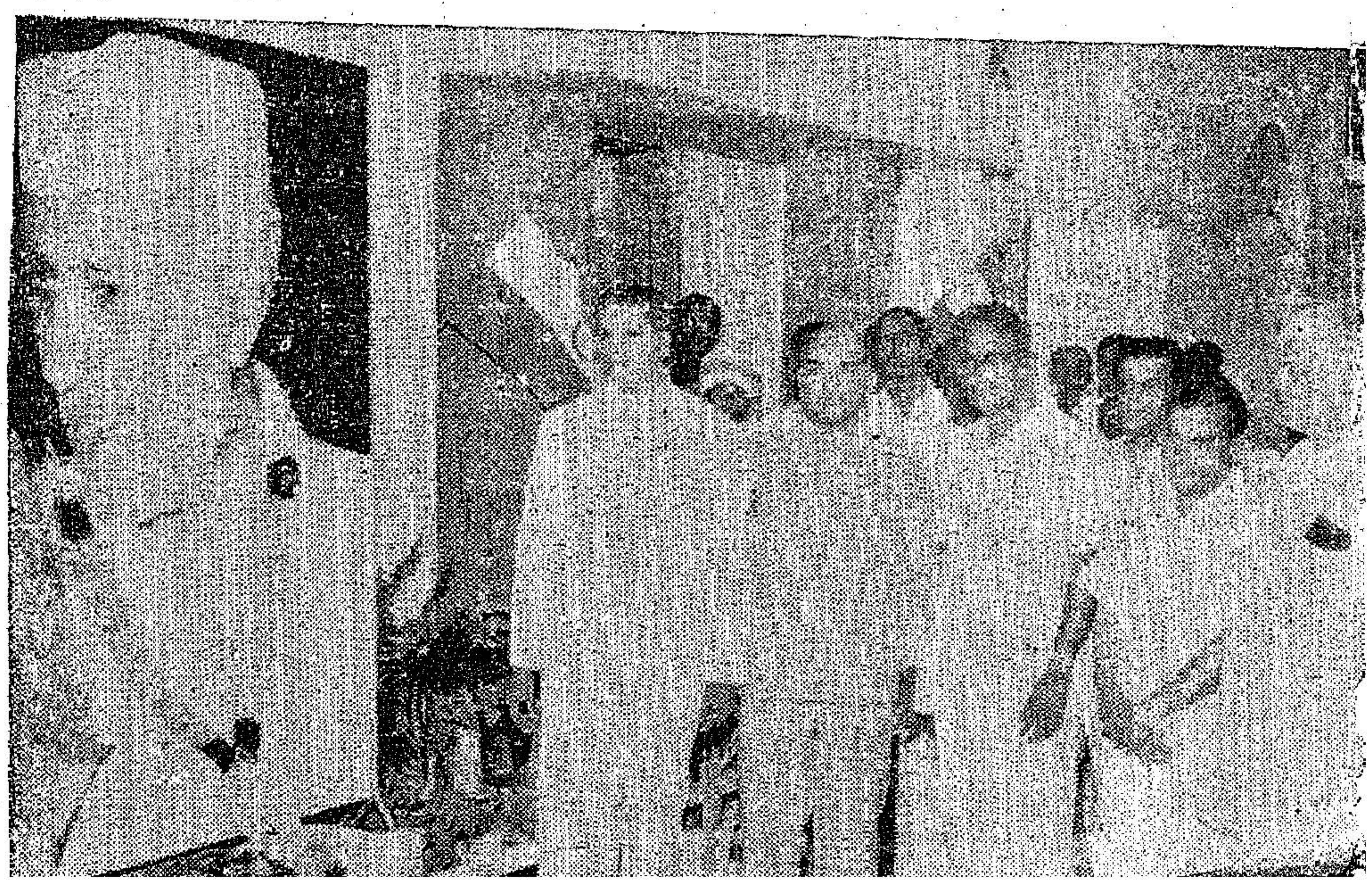
Our men and officers were also required to be trained in handling new weapons and equipment that we had received from U.S.A. and U.K. after the emergency. Training was therefore imparted not only in the use of new weapons and equipment but also in their maintenance.

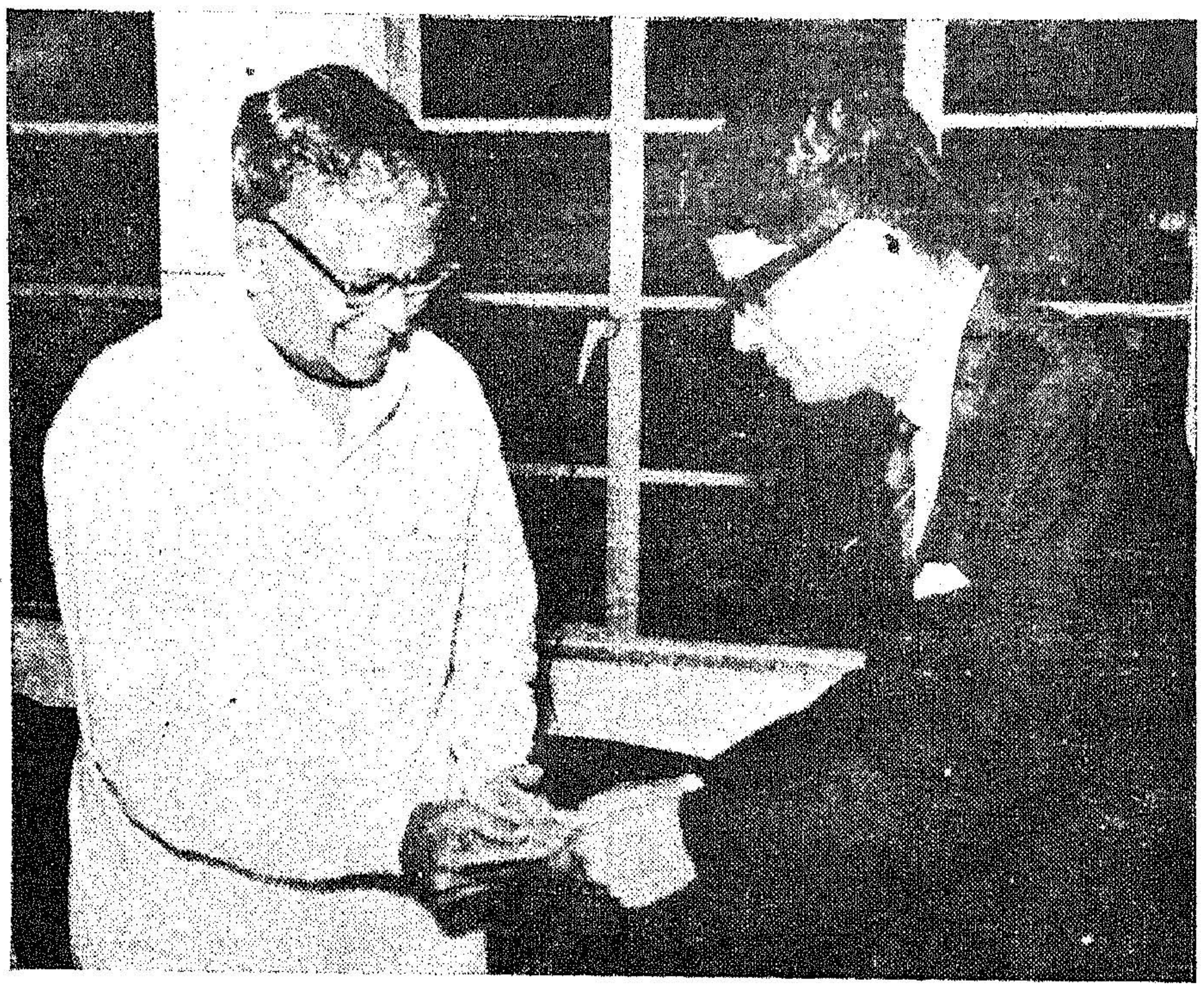
A number of our officers were sent on courses to U.K. and U.S.A. to learn the use and maintenance of the equipment which these countries had given to us. After attending these courses, these officers returned to the schools of instruction for training of our officers and men.

"Battle Inoculation" Course

The final task is now to weld together these leaders and men so that the units can function effectively. Instructions are imparted on models and on the ground as to how to plan an operation and handle the units in war. This is followed by units and sub-units going out and being able to do exercises and to carry out

Information and Publicity Minister, Sri G. Bhuvarahan inaugurated the Exhibition "Jawaharlal Nehru's Vision and Our Goal" at Tiruchy. He is seen going round the Exhibition.





Sri R. Venkataraman, Minister for industries who inaugurated the Pay Roll Savings Scheme in Messrs. Imperial Chemical Industries (India). Private Ltd, is seen receiving a cheque for Rs. 1,270 for the scheme from the Regional Manager.

practically all that they had learnt in theory. During such exercises, conditions are made as akin to war as is possible. Exercises are held which give an opportunity to Commanders at Brigade and Divisional level to work out and implement plans against the 'enemy', who is using the same tactics, as those with whom our nation may have to fight. Every effort is made to lay these conditions as realistic as is possible in peacetime.

To familiarise our troops to the noise of battle and to prepare them psychologically to being fired at by the enemy, they are put through what is called a 'battle inoculation' course. Troops are made to carry out exercises where fire from rifles, machine-guns, mortars, and field guns is brought as close to them as is possible with safety. Units and sub-units also carry out firing with live rounds during exercises and this gives them a chance to carry out in training what is expected of them in war.

Acclimatisation to heights

The problem of acclimatisation of our troops to live and fight at high altitudes where our troops have to be located in the Himalayas have been studied in great detail by the Army Medical Corps and Scientists. Our troops are now suitably trained before they are sent to these places. The method used is to take the units to higher altitudes in stages carrying out exercises and training at each stage, so that they are physically conditioned to work as required of them during the war under sub-zero temperatures and at heights where there is lack of oxygen. Experiments have shown that the troops acclimatise themselves well if they are taken to the heights in stages. In fact, our troops who are located in these regions are carrying out their duties with no-ill-effects whatsoever.

The expansion of the Army was the first task in the context of the Chinese aggression which brought into focus grave danger to the security of this country across the Himalayas. The expansion called for quick adjustment in the policy of recruitment as well as the modes and methods of training. New training facilities were created and training programme was modified both in respect of their content as well as duration. The Army as a whole was given an orientation in the type of training best suited to meet the new challenge. This is being carried out in a variety of ways including intensive training of troops in warfare in mountainous areas and in high altitudes.

POWER GENERATION IN MADRAS

As on 1st March 1965, the total Installed Generating Plant Capacity of all Power Plants in Madras State (including Neyveli Thermal Station) was 945·200 M.W. out of which the Hydro Power Plant form 62·9 per cent (594·200 M.W.) and the Steam Power Plant form 37·1 per cent (351·000 M.W.). The Total Power Plant Capacity of the Madras State is about 12 per cent of the Total Plant capacity in India (8·5 million K.W.).

Madras State ranks first in India in Rural Electrification Programme. As on 1st March 1965, the total number of towns, villages and hamlets electrified was 19,116 and the number of pumpsets given power connection was 2,20,432. The average revenue assessed per K.W. Hr. of power supplied to Agriculture in Madras State was 8·5 Paise which is the lowest tariff when compared to other classes of L.T. consumers in the State.

The total Capital outlay as on 1st March 1965 was about 221·05 crores.

The Gross Revenue of the Board upto February 1965 of 1964–65 was Rs. 26·59 crores as against Rs. 21·68 crores upto the same month of the last year (upto February 1964 of 1963–64). The Gross Revenue per K.W. Hr. of power sold works out to 12·5 Paise as against 11 Paise in February 1964.